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# Report by THE TARIFF BOARD

Relative to the Investigation Ordered
by the Minister of Finance
respecting

PIPES AND TUBES OF IRON OR STEEL

Reference No. 119

CANADIAN ECONOMIC RESEARCH ASSOCIATES





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THE TARRET BOARD

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OTTAWA, Feb. 28, 1957.

The Honourable,
The Minister of Finance,
Ottawa.

Dear Mr. Minister:

#### Reference No. 119

In accordance with your direction to the Tariff Board to conduct an inquiry regarding Pipes and Tubes of Iron or Steel,—

I have the honour to transmit herewith for tabling in Parliament under the provisions of Section 6 of the Tariff Board Act, the Report of this Board in connection with the aforesaid Reference, in English and in French. A copy of the transcript of the information secured at various public hearings accompanies this Report.

Yours faithfully,

H. B. McKINNON, Chairman. Digitized by the Internet Archive in 2022 with funding from University of Toronto

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# THE TARIFF BOARD

# Reference No. 119

# An Inquiry Respecting Pipes and Tubes of Iron or Steel

The letter from the Minister of Finance, dated September 14, 1955, directing the Tariff Board to conduct the inquiry which is the subject of this Report, was as follows:

I have received a number of representations to the effect that the provisions of the Customs Tariff relating to iron or steel pipes and tubes are in need of review and revision in the light of developments which have taken place since many of the present provisions were introduced.

In this connection various proposals have been submitted, some of which would result in tariff increases, either directly, or indirectly through the removal of special tariff treatment now accorded to pipes and tubes imported for certain end uses. Other suggestions would involve the reduction of some rates. It appears desirable that all interested parties be given an opportunity to express their views regarding the tariff provisions in question, particularly at this time when the Board already has before it Reference No. 118 relating to primary iron and steel, including skelp.

I therefore direct the Tariff Board to make a study and report under Section 4(2) of the Tariff Board Act on the items in Schedules "A" and "B" of the Customs Tariff which relate to pipes and tubes of iron or steel and fittings or couplings therefor. It is my intention that this study should cover the following items in their entirety:

396	398	399a
396a	398a	3996
397 (a)	3986	399c
397(b)	398c	400
397(c)	398d	1017
397(d)	398e	1018
	399	1018a

It should also cover Items 410d and 848 in so far as they relate to pipes and tubes of iron or steel, and similarly other items if the Board considers them relevant to its enquiry.

If the Board's study should indicate that amendments are desirable, I would request the Board to prepare a revised schedule of tariff items, with recommendations as to rates of duty, and to include the proposed schedule in its report.

In preparing this proposed schedule I would expect that the Board would have regard to the rates applicable to other related or comparable products of iron or steel.

In drawing up a revised schedule the Board should keep in mind the obligations and procedures of the General Agreement on Tariffs and Trade. In this regard it is recognized that certain adjustments in margins of preference may be involved; however, it is not the intention that there should be any general change in preferential margins.

Yours sincerely, W. E. HARRIS.

In its inquiry, the Board gave consideration at public sittings to a total of 25 items of the Customs Tariff (Schedule A) and to three drawback items (Schedule B to the Tariff). The new Schedule recommended in this Report has been prepared after close study of all the items listed (by number) in the letter of the Minister of Finance, as well as of certain other items which, in the opinion of the Board, were not merely relevant but necessary for a full inquiry re Pipes and Tubes.

#### Public Sittings Held

Public sittings of the Board under this Reference were held at Ottawa as follows:

June 18, 19, 20, 21 and June 25, 26, 27, 1956.

A nominal roll of participants in any or all of the public proceedings is incorporated herein as Appendix B.

A transcript of the proceedings at all public sittings is attached to this copy of the Report, for the Table of Parliament.

Apart from evidence put on record at public sittings, the Board secured for its own use considerable material of a confidential nature which, in accordance with the provisions of the Tariff Board Act, will be so treated.

#### Visits to Industries

During the course of the Inquiry, the following plants were visited by one or more members of the Board and their assistants:

Alberta Phoenix Tube & Pipe Limited, Edmonton, Alta. Allied Ironfounders Limited, United Kingdom The Anthes-Imperial Company Limited, Winnipeg, Man. A. M. Byers Company, Pittsburgh, Pa.

Canada Iron Foundries, Limited, Trois Rivieres, Que. Canadian Tube & Steel Products Limited, Montreal, Que. Canadian Western Pipe Mills Ltd., Port Moody, B.C.

Page-Hersey Tubes, Limited, Welland, Ont.

South Durham Steel & Iron Co. Ltd., United Kingdom Standard Tube and T. I. Limited, Woodstock, Ont.

Stewarts and Lloyds, Limited, Corby Works, United Kingdom Taylor Forge and Pipe Works of Canada, Limited, Hamilton, Ont. United States Steel Company

National Tube Division, Gary, Indiana Warden King Limited, Montreal, Que.

#### PART I

#### THE PIPE AND TUBE INDUSTRY

#### Development and Status

The iron and steel pipe and tube industry in Canada manufactures a wide variety of products, ranging from cast-steel pipe fittings two inches in diameter to 15-inch cast-iron soil-pipe; and, in steel pipe, from a fraction of an inch to 16 inches in diameter, the latter shortly to be increased to 36 inches. Within these size ranges, many different types of pipe and tubes are made, such as soil-pipe, water-pipe, seamless, buttweld, electric-weld, boiler tubes, oil and gas well-casing.

The pipe and tube industry consists of four distinct parts, with only a slight amount of overlapping: for example, one firm may produce both soil- and waterpipe, while another may produce both pipe and fittings. In practically every instance, however, the overlap is small. The main divisions of the industry are along the following lines of production: (1) steel pipes and tubes, (2) cast-iron soil-pipe, (3) cast-iron water-pipe, (4) iron and steel pipe fittings.

The Steel Pipe and Tube Industry: The steel pipe and tube industry consists of those firms which manufacture buttwelded pipe, electric-resistance welded pipes and tubes, seamless pipes and tubes, submerged-arc welded pipe, and seamless, welded and close-joint tubing. In September of 1956, eleven firms were actively producing. Four other firms, Alberta Phoenix Tube & Pipe, Limited, Edmonton; Mannesmann Tube Co. Ltd., Sault Ste. Marie; Welland Tubes, Ltd., Welland; and Prairie Pipe Company, Ltd., Regina, hope to be in production later in 1956 or in 1957.

In 1955, steel pipe and tube producers employed over 3,000 workers and paid out wages and salaries of more than \$12 million. In the same year they purchased about \$39 million of materials and shipped products valued at \$68 million. One firm, Page-Hersey Tubes, Limited, produced approximately 70 p.c. of the total output of this division of the industry.

The development of the industry to its present magnitude is perhaps best appreciated through a study of the development of the large existing firms.

A company which eventually became part of The Steel Co. of Canada, Limited was the pioneer in the field. Buttwelded steel pipe was first made in Canada by J. and C. Hodgson in 1880 in Cote St. Paul, adjoining Montreal. The successor firm, Hodgson Iron and Tube Co., was absorbed by Montreal Rolling Mills in 1910. The latter firm, which had begun the manufacture of buttwelded black pipe in Montreal in 1881 in the size range three-quarter inch to two inches in diameter, subsequently became a part of the Stelco organization. Stelco's present buttwelding mill, capable of making pipe four inches O.D. and smaller, was installed in 1927 at St. Henry Works, Montreal.

Page-Hersey Iron and Tube Co., Ltd., the third firm to enter the steel pipe field, began production in Montreal in 1897, manufacturing buttwelded steel pipe up to four inches in diameter. In 1902 the company moved to Guelph, Ontario, and in 1908 installed a lapwelding mill capable of producing pipe from two to 12 inches in diameter. (This mill remained in operation until 1949.) In 1911 the company built a factory at Welland, Ontario, bringing a buttwelding mill into operation there. The company's name was changed to Page-Hersey Tubes, Limited, in 1920. In 1921 a plant for the manufacture of light-walled tubing up to two inches O.D. by the oxy-acetylene welding process was installed.

In 1931 a seamless pipe mill, in 1942 a cold-drawn mill, and in 1946 an electric-resistance welding mill, were installed. In 1949 the company installed two more electric-resistance welding mills, and in the same year consolidated all its manufacturing operations at Welland.

The next firm to enter the field was Canadian Tube and Iron Works, which in 1911 began the production of buttwelded pipe from one-half to four inches in diameter. In 1920 this company merged with two others to become Canadian Tube & Steel Products Limited which in 1943 became a subsidiary of Dosco.

A predecessor of today's Standard Tube and T.I. Limited, Standard Tube and Fence Co., Ltd., emerged in 1912 and until 1920 manufactured only "butted" tubing for use in the manufacture of beds and fence posts. Experiments with acetylene welding of tubing were begun in 1919. The company became Standard Tube Co., Ltd., in 1921, and installed the first electric-resistance welding mill in Canada in 1937. In 1951 Tube Investments, Great Britain, became partners in the firm, which then changed its name to Standard Tube and T.I. Limited.

In 1952 Barton Tubes, Ltd., of Burlington, began production of light-gauge electric-resistance welded tubing. Atlas Steels Limited began producing stainless steel tubing in 1954. Some smaller firms entered the light-tubing industry in the 1950's.

In 1954 Canadian Western Pipe Mills came into production at Port Moody, B.C.

Burlington Steel Co., Limited, of Hamilton, founded in 1910, began the manufacture of butted tubing in 1925. In 1934 it began the manufacture of welded tubing.

The names, locations, products and pipe-sizes of the firms now in, or shortly to enter, the steel pipe and tube industry, are tabulated below:

Name	Location	Method	Size
	Welded Steel	Pipe	
Page-Hersey Tubes, Limited	Welland	Continuous-weld (buttweld)	$\frac{1}{4}$ " I.D.—4" I.D. $(4\frac{1}{2}$ " O.D
		Electric-resistance	$4\frac{1}{2}$ " O.D.— $16$ " O.D
The Steel Co. of Canada,	Montreal	D 44 1.1	_
Limited	Hamilton	Buttweld	½" I.D.—4" I.D. ½"—1.625"
Canadian Tube & Steel Pro-			
ducts Limited	Montreal	Buttweld	$\frac{1}{2}$ " I.D.—4" I.D.
Ltd	Port Moody, B.C	Electric-resistance	$\frac{1}{2}$ " I.D.—4" I.D.
Alberta Phoenix Tube & Pipe, Ltd	Edmonton	Buttweld	3½" I.D.—12¾" O.J
Prairie Pipe Company, Ltd.	Regina	Buttweld	3½" O.D.—16" O.I
Welland Tubes, Ltd	Welland	Submerged-arc (electric)	20" O.D.—36" O.I
	Light Steel Tu	bing	
Page-Hersey Tubes, Limited	Welland	Electric-resistance	0 0 0 0 0 D
		and close-joint (unwelded)	0.375″—4.0″ O.D.
Standard Tube and T.I.,	777 7 . 3	· · · · · · · · · · · · · · · · · · ·	
LimitedBarton Tubes Limited	Woodstock Burlington	Electric-resistance	0.1875"—3.0" O.D. 0.5"—3.0" O.D.
Atlas Steels Limited	Welland	Electric-resistance.	0.25"—2.375" O.D
Tubular Steel Products Limited	Scarboro (Toronto).	Various	0.5″—1.5″ O.D.
Sonco Steel Products, Ltd	Toronto	Various	0.5"—1.5" O.D.
Sasco Tubes Limited	Toronto	Close-joint(unwelded)	0.5″—2.0″ O.D.
	Seamless Steel Pipe	and Tube	
Page-Hersey Tubes, Limited Mannesmann Tube Co. Ltd		Welland	½" I.D.—7" O.D.
Standard Tube and T.I. Limited	i	Sault Ste. Marie Woodstock	$4\frac{1}{2}$ " O.D.— $10\frac{3}{4}$ " O. Up to 3" O.D.

<sup>\*</sup> Not in production on November 15, 1956.

As the above references to new firms indicate, the steel pipe industry is currently undergoing an expansion which is unprecedented. To a very large extent this development flows directly from the growing demand for oil-country goods, which are at present largely imported, and for line pipe, which must be imported in the larger sizes. With the completion of the Mannesmann plant at Sault Ste. Marie, Canada will have two sources of domestic supply for oil-country goods. These two producers jointly will have the capacity to supply more than Canadian requirements alone. At Welland Tubes, pipe up to 36 inches will be made—more than double the maximum diameter of pipe which can at present be made in Canada. Alberta Phoenix Tube & Pipe, Limited, is now operating a new mill in Edmonton which produces line pipe to a maximum of slightly under 13 inches in diameter. It is understood that a new firm at Regina, The Prairie Pipe Company, hopes to be producing line pipe sometime during 1957.

The Cast-Iron Soil-Pipe Industry: Cast-iron soil-pipe and fittings are manufactured by some 21 firms located in Quebec, Ontario, Manitoba, Alberta, and British Columbia, many of them producing rather small amounts. Most of these firms manufacture other products as well, such as plumbing and heating equipment, boilers, and iron castings. Three firms, Warden King Limited, The Anthes-Imperial Company, Limited, and Associated Foundry Limited, taken together, account for over 60 per cent of all shipments of cast-iron soil-pipe by Canadian producers. Some indication of the history of the industry is as follows:

Warden King Limited, founded in Montreal in 1852, began the manufacture by hand of cast-iron soil-pipe and fittings in the 1860's. About 1911, moulding machines were installed and mass production by the continuous pouring process was set in operation. Warden King became a wholly-owned subsidiary of Crane, Limited, in 1926, and at present manufactures in the size range two inches to 12 inches, inclusive.

The Anthes-Imperial Company's predecessor, the Toronto Foundry Company, founded in 1894, began the manufacture of cast-iron soil-pipe in that same year. At present Anthes manufactures pipe at St. Catharines in the size range two inches to 15 inches, at Winnipeg in the size range two inches to 10 inches, and at Edmonton in the range two inches to four inches.

Associated, at Vancouver, in 1945 took over the operations of Anthes-Tait Foundry which had been making soil-pipe and fittings since about 1910. At present Associated manufactures in the size range two inches to six inches.

The producers of cast-iron soil-pipe and fittings in 1955 are listed at the end of this section.

The Cast-Iron Water-Pipe Industry: At present cast-iron pressure-pipe, used largely in municipal waterworks systems, is made by some four producers located in Quebec, Ontario, Manitoba, and Alberta. Two firms, Canada Iron Foundries, Limited and The Anthes-Imperial Company, Limited, made over 90 per cent of all cast-iron water-pipe made in Canada in 1955. The industry's history is substantially the history of these two companies.

One of the companies acquired by Canada Iron Foundries, Limited, namely, Gartshore-Thompson Pipe and Foundry Co., Ltd., made cast-iron water-pipe in 1880 in Hamilton, while a direct antecedent of C.I.F., Canada Iron Furnace Co., Ltd., manufactured pit-cast pipe at Trois Rivieres in 1889. The Delavaud method of centrifugally spinning cast-iron water-pipe was first undertaken by National Iron Corporation of Toronto in 1919, which became part of C.I.F. in 1927. In 1950, the Trois Rivieres plant of C.I.F. was converted from the pit-cast to the Delavaud method. Delavaud pipe equipped with mechanical

joint accounts for about 80 per cent of all C.I..F's pipe sales. Bell- and spigot-pipe is also made. The present size range of C.I.F. is from four inches to 16 inches, inclusive, in the company's Toronto plant, and from four inches to 24 inches, inclusive, in the Trois Rivieres plant.

Anthes-Imperial began the production of hand-cast water-pipe about 1927, and at present makes hand-cast universal pressure-pipe at its Winnipeg plant in the size range two inches to 12 inches, inclusive.

The firms in this industry in 1955 are listed at the end of this section.

The Iron and Steel Fittings Industry: This section of the industry consists of those firms which manufacture cast-iron and malleable-iron pipe fittings, cast-steel pipe fittings, buttwelding steel pipe fittings, flanged steel pipe fittings, and steel pipe flanges. The pipe fittings industry is younger than any of the other three branches of the industry group considered in this Report.

Crane Limited, of Montreal, founded in 1919, began production of both cast-iron and malleable-iron pipe fittings in that year. Flanged steel pipe fittings were first produced in 1935 and steel buttwelding fittings in 1948. The company manufactures the rough iron castings from which it finishes cast-iron fittings, but its cast-steel fittings are made from purchased steel castings.

Taylor Forge and Pipe Works of Canada, Limited, began operations in 1951. The firm manufactures forged welding pipe fittings from steel and from genuine wrought-iron, and forged pipe flanges from both steel and cast-iron. The company completely manufactures pipe welding elbows and return bends in sizes eight inches and smaller, but sizes larger than eight inches are imported in rough-forged form for finishing.

Canadian Coupling and Fittings, which makes only a steel pipe coupling, began manufacturing in 1955. Tube Turns of Canada, Ltd., began the manufacture of welding pipe fittings in 1950; manufacturing consists of finishing rough elbows and return bends, the rough fittings being imported from the parent company in the United States. Steel pipe fittings are also made by Ladish Co. of Canada, Ltd., located in Brantford. Certain of the steel pipe producers also make couplings and fittings.

# Steel Pipe Producers

Canadian Tube & Steel Products Limited, Montreal, P.Q. Barton Tubes Limited, Burlington, Ont.
Page-Hersey Tubes, Limited, Welland, Ont.
Standard Tube and T.I. Limited, Woodstock, Ont.
Atlas Steels Limited, Welland, Ont.
Canadian Western Pipe Mills Ltd., Vancouver, B.C.
Mannesmann Tube Co. Ltd., Sault Ste. Marie, Ont.
Alberta Phoenix Tube & Pipe, Limited, Edmonton, Alta.
Burlington Steel Co. Limited, Hamilton, Ont.
Sonco Steel Products Limited, Toronto, Ont.
The Steel Co. of Canada, Limited, Montreal, P.Q.
Sasco Tubes, Limited, Toronto, Ont.
Tubular Steel Products Limited, Scarboro (Toronto), Ont.

Cast-Iron Soil-Pipe and Fittings

Binette & Frere, Laurierville, P.Q. La Fonderie Ste. Croix Limitee, Ste. Croix, P.Q. Fonderie Magog Limitee, Magog, P.Q. M. I. Viau & Fils, Limitee, St. Jerome, P.Q.

St. Jerome Industries Ltd., St. Jerome, P.Q. The Anthes-Imperial Company, Limited, St. Catharines, Ont. Associated Foundry Limited, Vancouver, B.C. Warden King Limited, Montreal, P.Q. La Fonderie Bourget, Windsor Mills, P.Q. The Anthes-Imperial Company, Limited, Edmonton, Alta. La Fonderie Paquette Enrg., Laprairie, P.Q. Bibby Foundry, Limited, Galt, Ont. J. A. Wotherspoon & Son, Limited, Oakville, Ont. Tweed Engineering & Foundry Ltd., Tweed, Ont. Soil Pipe & Fittings Limited, Mimico (Toronto), Ont. Lincoln Foundry Co., Limited, St. Catharines, Ont. The Anthes-Imperial Company, Limited, Winnipeg, Man. McDonnell Metal Manufacturing Co., Limited, Vancouver, B.C. Pease Foundry Co., Limited, Toronto, Ont. A. E. Bock Foundry Co., Galt, Ont. Dominion Foundry Co., Ltd., Winnipeg, Man. J. R. Fergusson Company, Dundas, Ont. Soil Pipe & Fittings Limited, North Burnaby, B.C.

#### Water-Pipe Producers

The Anthes-Imperial Company, Limited, Winnipeg, Man. Canada Iron Foundries Limited, Trois Rivieres, P.Q. Thos. Lawson & Sons Limited, Ottawa, Ont. Norwood Foundry Co., Limited, Edmonton, Alta.

#### Pipe Fittings and Couplings Producers

Ladish Co. of Canada Ltd., Brantford, Ont.
Tube Turns of Canada, Ltd., Ridgetown, Ont.
Taylor Forge and Pipe Works of Canada, Limited, Hamilton, Ont.
Canadian Coupling & Fittings Limited, Simcoe, Ont.
Crane Limited, Montreal, P.Q.
Grinnell Company of Canada, Limited, Toronto, Ont.
Fittings, Limited, Oshawa, Ont.
International Malleable Iron Co. Ltd., Guelph, Ont.
Legare Foundry Limited, Sherbrooke, P.Q.
Ontario Malleable Iron Co., Limited, Oshawa, Ont.
Rockwell Manufacturing Company of Canada, Ltd., Guelph, Ont.
Terminal City Iron Works, Ltd., Vancouver, B.C.
Letson and Burpee, Limited, Vancouver, B.C.

#### How Pipes and Tubes are Made

Following is a very brief and not too complicated description of the methods of manufacture and the chief uses of the various types of pipe and tube:

Steel Pipes and Tubes: Steel pipes may be either welded or seamless. Welded pipes may be made by buttwelding (by either the bell- or continuous-welding methods), by electric-resistance welding, or by submerged-arc electric welding. Most light tubing is made by the electric-resistance welding process. Furthermore, pipes or tubes hot-formed by either a welded or a seamless process may then be cold-drawn or cold-rolled.

In the bell process of buttwelding, the raw material is a long, narrow, flat, hot-rolled piece of steel having bevelled edges and varying in width according to the diameter of pipe to be manufactured. Among pipe manufacturers, the tradi-

tional name for this raw material has been "skelp". Skelp arrives at the pipe mill in flat lengths or in coiled form. If coiled, it is unrolled and cut into lengths of 20 to 40 feet. The skelp is then passed to the clipper, a machine which shears away the corners of the front end of the piece, shapes the pointed end to start the curve for welding, and bends the skelp just back of the curve so as to elevate the pointed end for easy grasping with the welding tongs. The skelp is then stacked and sent to the buttwelding furnace where it is heated to a welding temperature of about 2,600° F. The white-hot skelp is pushed from the furnace and grasped by a workman holding a pair of tongs inserted through a die called a welding bell. The tongs are then gripped by a carriage mounted on an endless chain which pulls the tongs and skelp through the funnel-shaped welding bell. In the process, the skelp is curled until the two edges are pressed together and welded into the shape of a pipe. The pipe, still white-hot, is then run through sizing rolls which form it into a perfect circle by reducing it slightly in size. Next, it is passed through scale-removing rolls which, by squeezing the pipe slightly out of shape, break off the brittle scale. An alternative to the descaling process is to pass the pipe through a stretch-reducing mill in which the diameter of the pipe is reduced at the same time as the scale is removed. imperfections in the contour of the pipe are then removed by running it through straightening rolls. Finally the pipe is tested hydrostatically.

In the continuous-welding process flat white-hot skelp, on leaving the furnace, is passed over a series of rolls, successive sets of which are contoured so as to curl the edges of the skelp until they meet, thus forming a pipe. The edges of the skelp are welded together by heat and the pressure of the forming rolls. The remaining steps are the same as those outlined in the previous paragraph.

In Canada the bell-welding and continuous-welding processes are used to make buttweld pipe up to four and one-half inches O.D.

The electric-resistance welding process is used in Canada to make pipe from four and one-half inches to 16 inches O.D. It is also used to make light-walled tubing. The skelp is passed over a series of rolls, successive sets of which are contoured so as to curl the edges of the skelp until they meet. Immediately after leaving the forming rolls, the skelp passes through a pair of pressure rolls above which are placed two circular welding electrodes. The latter take the form of two water-cooled copper discs separated by insulating material and mounted so that one disc is on each side of the opening to be welded. Electric current passes from one copper disc through the skelp and into the other copper disc; the skelp's resistance to the current heats the edges of the skelp to a high temperature. The combination of heat created by resistance to the electric current and of pressure exerted by the pressure rolls causes the edges of the skelp to weld, forming a pipe. The raised surface created at the weld both inside and outside the pipe is then removed and the pipe is cooled. In the case of light-walled tubing the remaining processes are sizing, straightening, and inspection.

The final diameter of large-sized steel pipe welded by the electric-resistance method is obtained by subjecting the pipe to a cold-expansion process. The pipe is placed in an expanding machine and mandrels are forced into each end, expanding the pipe to the required diameter at the ends only. Retainer rings encircle the body of the pipe which is filled with water and expanded by hydraulic pressure to the limits of the rings. Pressure is reduced by stages and the pipe is tested by air hammers. Finally the water is released. This hydraulic expansion serves not only to increase the pipe's diameter but also to test the weld and to cold-work the steel, thereby improving its mechanical properties.

Quite a different method will be used by Welland Tubes Limited in the manufacture of submerged-arc electric welded pipe in 20 to 36 inches outside diameter. The raw material (skelp) may arrive at the mill in coils or in flats.

If in flats, the lengths will be 40 feet. The widths will be from 62 inches for 20-inch pipe to 113 inches for 36-inch pipe. The thicknesses will be from  $\frac{1}{4}$  inch to  $\frac{1}{2}$  inch. In the case of coils, the widths and thicknesses will be the same as in the case of flats, but the lengths will be in multiples of 40 feet. These coils will be uncoiled, flattened, and cut to individual forty foot lengths. The flat skelp now goes through a pickling process to remove any dirt, rust, or scale. The skelp then proceeds through machinery for edge trimming, edge bevelling, and edge pre-forming which latter is an initial bending of the edges. It then passes on to a U-ing press in which it is centred over a series of rocker-type dies which lie along the axis of the skelp. A downward plunging "bulb" forces the skelp in between the rocker-type dies and converging side beams which automatically conform themselves to the operation and assist in transforming the skelp into a U shape. The U-shaped skelp is then transferred to the main forming or O-ing press, consisting principally of two semi-circular dies in the lower of which the U-shaped pipe rest. The upper die, activated by three massive hydraulic rams of 5,500 tons capacity, moves downward, forming the U-shaped skelp into a cylinder, with the edges butted together and perfectly aligned for welding. The partially completed pipe is removed from the O-ing press and the butting edges of the cylinder are tack-welded to facilitate subsequent operations. The tack welds are ground flush and any offset at the ends is removed. The pipe is degreased by immersion in hot water detergent and a 4-inch tab is welded at each end of the seam to assure proper lead-in and cut-off of finish welds.

The pipe is welded in two passes by the submerged-arc welding method. is first welded on the inside, then on the outside. The inside weld is applied by a long travelling boom which moves inside the pipe, positioned with positive accuracy over the seam (which is now at the bottom of the pipe), by a small wheel riding in the bevelled seam. Welding rods are played out to twin arcs, mounted in tandem, one in front of the other. The outside weld is applied by a stationary welding fixture (the pipe having been turned so that the seam in this case is on the top of the pipe). For the outside weld the pipe moves on rollers past twin arcs, while the operator maintains accurate seam position by sighting through a rifle sight and making minute lateral adjustments. In this process the weld is accomplished by the fusion of the virgin metal in the seam with the applied welding rod metal at a temperature of about 3,000° F. The temperature of the arc is approximately 6,000° F. Granular flux is delivered at the point of weld or fusion which gives protection against oxidation of the metal while in a molten state. After preliminary inspection, removal of welding tabs and dressing of end welds, loose scale and flux are removed. The pipe is then cold-expanded by hydraulic pressure in a manner similar to that described previously in connection with the production of electric-resistance weld pipe.

Seamless pipe is made from a long, round, solid piece of steel termed a tuberound or a tube-billet, the end of which is centre-punched to ensure concentricity in the subsequent operations. The billet, after being heated to a uniform temperature of about 2,200° F., goes direct from the furnace to the piercing machine, sometimes called a mandrel mill. In this mill, the billet is passed between two rolls whose axes incline at opposite angles of from 6 to 12° from the horizontal centre-line of the mill and are formed so that they first converge and then diverge toward the delivery side of the mill. Between the diverging faces of the rolls is set a projectile-shaped piercing mandrel mounted on the end of a long bar. As the billet is rolled between the two rolls, their pressure deforms it in such a way that the steel tends to pull away from the centre of the billet (it would do so even in the absence of the mandrel). In practice the mandrel is placed so as to start the opening up of the billet and to do so at or very near its axis. Thus the mandrel is not forced through the billet: rather, the rolls cause the hot steel to flow over and about the mandrel to produce a hollow shell. The mandrel serves

principally to guide the steel and to make the hole uniform in the centre. After leaving the mandrel mill, the hollow shell goes to the plug-rolling mill, where it is placed between the two work rolls and over a cylindrical mandrel. The pipe passes through this mill twice, being rotated 90 degrees prior to the second passage. By these operations the pipe wall is reduced to the desired gauge and its thickness is made uniform throughout. However, on leaving the plug-rolling mill, the pipe is slightly out of round and not perfectly straight. To correct these deficiencies the pipe is then passed through the rolls and over the mandrel of a recling machine which slightly reduces it in size and burnishes both inside and outside surfaces. Finally the pipe is passed through the rolls of a sizing mill to ensure accurate diameter and perfect roundness.

Seamless pipes and tubes may also be made by the push bench process. This process starts with tube square billets, which arrive at the pipe mill in lengths 20 to 30 feet long. The sectional dimensions are 4 inches by 4 inches to 83 inches by 83 inches, depending on the wall thickness and diameter and length of pipe to be produced. The long billets are sheared to lengths approximately 12½ inches to 34½ inches long. A charging machine puts the billets into a rotary hearth furnace where they are heated to approximately 2.250°F. The billets are removed by a discharging machine and placed on a conveyor which takes the billets individually to a billet sizing press. This operation adds to the dimensional accuracy. The billet goes next to the vertical 600 ton hydraulic press. In this, by means of a punch and die, the solid square billet is converted into a hollow cylindrical forging with the bottom end closed like a "bottle", the punch stroke being stopped short of going all the way through the billet. This closed end is essential to the following pipe-making operations. The newly-formed steel "bottle", now moving horizontally, goes next to the elongator machine where barrel-shaped rolls and an internal plug reduces the diameter, making the "bottle" longer. It also evens up the wall thickness, giving good concentricity of wall in the finished tube. The "bottle" goes next to the roller die bed, still travelling on the horizontal. A long bar or mandrel is inserted and pushing against the closed end, propels the "bottle" through a series of roller dies, each with a decreasing size of opening. The thick walls of the short "bottle" are gradually rolled or pushed back up the mandrel bar. In this operation the actual pipe or tube is formed and the wall thickness reduced to the approximate dimension of the finished tube. The tube then passes through a reeler which reeling operation smooths the outside surface and slightly raises the inside surface of the tube from the mandrel bar on which it has been rolled. The mandrel bar is withdrawn and the tube goes to the crop end saw where the solid nose end and open or tail end are cut off. The tube then goes through a re-heating furnace and from this through the reducing mill which sizes the tube to its final dimensions. The pipe or tube is then put through a rotary straightening machine, hydrostatically tested, and inspected.

The cold-drawing of pipes and tubes may be undertaken to obtain wall thickness, diameters, lengths, shapes, better surface finishes, closer dimensional tolerances, or higher mechanical properties than are obtainable by hot working. The first step is the reduction in diameter of the first six inches or so of the pipe in a pointing machine so that the end of the pipe may enter the die. The drawing process itself consists of pulling the pipe through a die, the hole of which is smaller than the outside diameter of the pipe to be drawn. At the same time a mandrel on the end of a rod supports the inside surface of the pipe. In the process the diameter of the pipe and the thickness of its wall are reduced.

An additional method of cold-working tubing is the Tube Reducing or Rockrite or Micro Rock process. When tubing is required to have close

concentricity of internal or external diameter, or an especially smooth internal finish, or improved machinability, this process is used. The tube is squeezed and rotated between two semi-circular dies having tapering semi-circular grooves in their curved faces. The two dies are placed one above the other and are geared to move in opposite directions. Their faces trace a converging circular pass as the dies are moved laterally. A stationary, tapering mandrel is held inside the pipe, which is elongated and reduced in wall thickness and diameter by the pressure exerted by the mandrel and converging rolls.

Buttwelded pipe four and one-half inches O.D. and under finds its major outlet in the plumbing and heating trades. Some is used in the surface flow lines of oil and natural gas gathering systems. Other uses are in agricultural implements, railway rolling stock, mines (air and water lines), sprinkler systems, and skating rinks.

Electric welded pipe four and one-half inches to 16 inches O.D. is used in oil and natural gas pipelines, in municipal waterworks systems (in which use it competes with cast iron pressure pipe), in mines, and in industrial plants generally for heating and steam lines.

Scamless pipe is used in oil-country goods, in the high pressure lines of oil refineries, and in the chemical industry in applications characterized by high pressure or by either extremely high or extremely low temperatures.

Boiler tubes, which may be either electric welded or seamless, are used, as the name suggests, in manufacturing boilers. Consequently they ultimately are used in any plant or building having a steam boiler. They are also used in building ships and locomotives.

Large-diameter pipe (20 to 36 inches O.D.) is used in main gas and oil pipe lines.

Light-walled electric welded tubing four inches and under in diameter is used in the manufacture of furniture, airplane and motor bus bodies, automobiles (seat frames, shock absorbers, tail pipes), and television aerials.

Cast-Iron Pipes and Tubes: Although cast-iron water-pipe may be cast manually or by the sandslinger method, most of it is manufactured by the Delavaud process. The Delavaud process for making pipe uses a cylindrical, horizontal, rapidly spinning steel mould into which molten metal is introduced, the molten metal being distributed over the mould wall and held there by centrifugal force. This forms a pipe of uniform wall thickness which after solidification and subsequent shrinkage of the metal, is withdrawn from the mould. The mould is flood-cooled by water on the outer surface, causing rapid solidification of the molten metal.

The mould, its bearings and drive, and a casing or jacket to contain the water cooling, are mounted on a carriage which travels on a pair of rails. The carriage is moved along its bed at a controlled uniform rate, the distance it travels being a little over twice the length of the pipe to be made. At one end of the bed is a ladle with a controllable tilting mechanism, which feeds a long, narrow trough supported only at the end under the ladle. The trough, which is a little longer than the pipe to be made, is located so that it is roughly concentric with the mould.

The pipe-making process starts with the carriage and mould (or "machine") at the lower end of its travel so that the trough is free of the mould. With rotation of the mould stopped, a sand core is fitted into the end of the mould to form the bell-end of the pipe. The mould is then started rotating at a speed of several hundred revolutions per minute, depending on the size of pipe being made, and the machine is moved to the opposite end of its travel so that the

trough extends down the interior of the mould nearly to the bell end. The ladle, previously filled with molten iron, is started tilting at a steady rate and the iron flows down the trough and into the mould. When the bell cavity is filled, the machine is moved steadily along its track so that a continuous layer of molten iron is created on the spinning mould wall. At the completion of its travel, the machine is again at its lower end, the trough is free of the mould, and a complete pipe has been made. Spinning is continued for a brief period until the pipe has solidified and cooled to about 1,500°F. and then stopped. A wedge-like tool is inserted inside the bell-end of the pipe and hooked to the machine bed, and the machine traversed to the upper end of its travel drawing the mould off the pipe. The completed pipe is rolled sideways out of the way and the machine returned to its lower end ready for another cycle.

After easting, pipe is transferred immediately to an annealing furnace where it is annealed by heating to 1,700 to 1,750° F. After cooling it is cleaned of any roughness, inspected, coated with tar by complete immersion, and tested at 500 pounds per square inch internal water pressure.

Cast iron soil pipe is made by pouring molten iron into a horizontal sand mould with a sand core. The mould is prepared in a two-part metal box called a flask. A pipe pattern is mounted on a moulding machine and the top half of the flask is placed over the pattern, filled with sand, and rammed mechanically by the moulding machine. Thus the impression of the pipe pattern is left in the sand. The process is repeated using the lower half of the flask. The core is made as follows: A hollow steel cylinder, called an arbor, is rotated mechanically while moulding sand is dropped onto it from an overhead hopper. The sand adheres to the arbor, gradually building up to the required size, the outside diameter of the resultant core being shaped by a knife as the core rotates.

The sand core is set in the bottom half of the flask. The upper half of the flask is placed over the lower half and the two halves are clamped together. Molten iron is poured into the cavity between the core and the two halves of the flask, forming a pipe having a thickness equal to the distance between the outside diameter of the core and the pattern impression in the sand mould. After the pipe has solidified, the steel arbor is removed and the mould is placed on a vibrating screen to remove excess sand. The pipe is taken from the mould, shot-blasted to remove adherent sand, and ground to remove sharp fins of metal. Finally the pipe is dipped in a protective coating to prevent rusting.

Soil pipe and fittings are the principal components of the indoor drainage system of almost every type of house and building. Soil pipe is made in five-foot lengths. The fittings, made in many shapes and sizes, are used in connecting lengths of soil pipe and in connecting branch lines to the main stack.

Iron and Steel Pipe Fittings: As indicated earlier, pipe fittings may be classified into three groups: buttwelding pipe fittings of steel or of genuine wrought iron, forged flanges, and cast fittings, the latter group being made of cast iron, malleable iron or steel. The methods used in manufacturing each of these types are indicated briefly in the following paragraphs.

Buttwelding steel pipe fittings are manufactured from seamless steel pipe. A right-angle turn, for example, is made by mounting an appropriate length of straight seamless pipe on a bar, heating the pipe to white heat, and then squeezing the hot pipe over a right-angle shoe. The hot steel then flows in such a way that a uniform wall thickness is maintained, the resultant 90 degree bend being

larger in diameter than the original straight length. Tube turns involving bends of more or less than 90 degrees are made in a similar manner by forcing lengths of hot, seamless pipe over shoes incorporating the appropriate angles. Other buttwelding fittings are made by cutting and welding operations.

Cast fittings, whether of cast-iron, malleable-iron, or steel, are made by machining rough castings to the dimensions and tolerances required. Forged flange fittings, of iron or steel, are made by machining rough forgings to the dimensions and tolerances required. Fittings are used wherever pipes are in use.

#### PART II

#### TRENDS IN PRODUCTION AND IMPORTS

This section deals with trends in production and imports, from 1926 to 1956. Wherever possible, production and import data regarding the various types of pipe and tube have been related to the tariff. It has been found, however, that published data cannot always be closely related to individual tariff items. Where this is the case, attempts have been made to obtain additional breakdowns or regroupings of the statistics which are more closely related to the descriptions contained in individual items. In the following sections, each of the more important types of pipe or tube is dealt with separately.

#### Cast Iron Pipe (Soil and Water)

Prior to 1953, no breakdown was made as between imports of soil-pipe and water-pipe. Both types were grouped in one statistical item. In order to compare imports with domestic production prior to 1953, it is, therefore, necessary to examine statistics covering both soil- and water-pipe, as is done in the table below.

It would appear that prior to 1951, imports of cast-iron pipe usually made up considerably less than 10 p.c. of domestic disappearance of such pipe. In 1951 and subsequent years, however, imports have accounted for up to 19.0 p.c. of domestic disappearance and have not dropped below 13.6 p.c. In the same period, Canadian production has shown a considerable increase. The statistics, therefore, show that both domestic production and imports have increased substantially in recent years, imports having a somewhat greater share of the market than previously.

#### ALL CAST IRON PIPE

(tons of 2000 lbs.)

Year	Canadian Production	Imports	Exports	Domestic Disappearance (or Supply)	Imports as p.c. of D.D.
1926	87,949	6,702		94,651	7.1
1929	77,624	5,063	_	82,687	6.1
1933	11,702	534		12,236	4.4
1937	33,048	377		33,425	1.1
1941	64,237	203	1,966	62,474	.3
1946	77,487	205	157	77,535	.3
1948	116,252	5,289	659	120,882	4.4
1950	121,335	13,222	1,368	133,189	9.9
1951	131,650	20,117	999	150,768	13.3
1952	108,560	17,553	1,274	124,839	14.1
1953	130,780	27,501	445	157,836	17.4
1954	148,950	34,999	154	183,795	19.0
1955	162,725	25,406	1,086	187,045	13.6

## Cast Iron Soil-Pipe

This product enters under tariff item 396a, with rates of Free (B.P.) and 7½ p.c. (M.F.N.). Domestic producers supply more than 90 p.c. of Canadian requirements and have experienced an almost constant growth in their output, which has increased from 29,159 tons in 1948 to well over 40,000 tons in 1954 and 1955. Import statistics, which are available after 1952, show that purchases from non-Canadian sources have tended to decrease in both absolute and relative terms. Most imported soil-pipe originates in the United Kingdom and enters the Maritime Provinces, Quebec and British Columbia.

#### CAST IRON SOIL-PIPE

(tons of 2000 lbs.)

Year	Canadian Production	Imports	Domestic Supply	Imports as p.c. of D.S.
1941	17,412	_		. ——
1946	16,351			
1948	29,159			
1950	32,700			
1951	30,000		· · · —	
1952	37,200	and the same of th		
1953	39,200	4,380	43,580	10.0
1954	45,400	3,410	48,810	7.4
1955	43,500	4.330	47,830	7.0
1956 (8 mos.)	34,000	1,768 (7 mos.)	_	_

#### Cast Iron Water-Pipe

Since 1953, most water-pipe has entered under tariff item 396, with rates of \$5.00 per ton (B.P.) and \$10.00 (M.F.N.). Imports are largely from the

United Kingdom.

The market for water-pipe in Canada has expanded greatly in postwar years; this development is attributable to the rapid growth of population and the relatively great expansion of urban communities. The result has been the rapid extension of existing water systems and the introduction of many new systems. Domestic foundries have responded to this demand by increasing their output substantially, as the following table illustrates. The demand, however, has not always been consistently upward; it fell sharply in 1952 and only partially recovered in 1953. However, in 1951, 1954, 1955 and 1956, production has been well above that of the early postwar years.

In recent years, domestic foundries have supplied from 75 to 85 p.c. of the Canadian market. Although this represents a greater tonnage than previously, it is a smaller percentage than in earlier years, when the market was very much smaller. This development can also be stated in the following terms: both domestic production and imports have increased tonnagewise, with imports showing the greater increase, but still accounting for only from 15 to 25 p.c. of the supply of pipe. It would appear that imports were not responsible for the dip in domestic output in 1952, since imports in that year seem to have been smaller than in both the preceding and the following year, when domestic output was on a much higher level. The drop in 1952, therefore, seems to have been largely attributable to a decline in domestic demand.

#### CAST IRON WATER-PIPE

(tons of 2000 lbs.)

Year	Canadian Production	Imports	Domestic Supply	Imports as p.c. of D.S.
1941	45,793			
1946	57,810		- Contraction	Manager 1
1948	87,093	_		severale.
1950	88,635	angement .		
1951	101,650		•	
1952	71,630	-		-
1953	91,580	23,121	114,701	20.2
1954	103,550	31,365	134,915	<b>2</b> 3. <b>2</b>
1955	119,225	21,076	140,301	15.0
1956 (8 mos.)	92,400	16,386 (7 mos.)		

#### Steel Pipes and Tubes

There are many divisions and sub-divisions of steel pipes and tubes in common usage in the trade. In this sub-section, the more important broad groupings are included; these are buttweld, electric-welded, seamless, boiler tubes and seamless and electric-weld casing for oil and gas wells. The following table shows shipments by Canadian mills for all of these types except seamless pipe, which is dealt with separately:

Shipments of Steel Pipe and Tube by Canadian Producers (tons of 2000 lbs.)

Exercise Section 1. Se	1951	195 <b>2</b>	1953	1954	1955
Buttweld	142,409	115,542	122,095	119,581	156,945
Electric-welded to 16 inches in diameter	83,768	134,115	91,341	98,805	166,756

Buttweld pipe is largely dutiable under tariff item 397(a), with rates of 15 p.c. (B.P.) and  $22\frac{1}{2}$  p.c. (M.F.N.). Domestic production was high in 1951, dipped in 1952, 1953 and 1954, but returned to a peak in 1955. It would appear that this fluctuation reflected changes in levels of domestic demand rather than import competition, which is relatively light, probably amounting to about 5 p.c. of domestic production.

Electric-welded pipe of  $10\frac{1}{2}$  inches or less in diameter also is classified under item 397(a). Electric-weld within this size range has composed the greater part of the tonnage of domestic production of this type of pipe. Once the newer pipe mills begin production of large diameter pipe, this relationship will change and tonnage of pipe of large diameter will almost certainly considerably exceed that of pipe in smaller sizes. Imports under 397(a) of electric-welded pipe  $10\frac{1}{2}$  inches or less in diameter do not appear to have been extensive and probably have not been a major factor in influencing the volume of business available to Canadian mills.

Electric-welded tube, which is produced to three inches in diameter in Canada, is also classifiable under 397(a). Imports of tubing are substantial, accounting for from 30 to 40 p.c. of total consumption in some years. In part, the reason for these heavy imports is that tubing from three to five inches in diameter is not made in Canada.

It would seem certain that sizeable tonnages of hot-finished seamless pipe are also classified under tariff item 397(a). The following table shows both domestic production and imports of hot-finished seamless pipe. Hot-finished seamless pipe may also be classified under item 398c at Free (B.P. and M.F.N.) or under item 398d at Free (B.P.) and 10 p.c. (M.F.N.). Information available to the Board and evidence at public hearings point to about 6,000 tons of seamless pipe (hot- or cold-finished) having been imported in 1955 under item 398c; in earlier years, the tonnages imported under this item were considerably smaller. A rough estimate of imports under item 398d is 4,000 tons annually. The remainder would enter under item 397(a). Domestic production is small, being considerably less than the tonnage of imports.

Cold-drawn seamless pipes or tubes fall largely under tariff items 398, 398a, 398b or 398c. It is understood, however, that the major proportion of imports enters under tariff item 398 at Free (B.P.) and 5 p.c. (M.F.N.) or item 398c at Free (B.P. and M.F.N.). Domestic production has been very small, amounting to only a fraction of imports.

#### SEAMLESS PIPE AND TUBE

(tons of 2000 lbs.)

				Imports	
	Domestic	Production		nches in diameter	Over 12 inches in diameter
Year	Cold-drawn	Hot-finished	Cold-drawn	Hot-finished	Hot-finished
1950 1951 1952 1953 1954	1,741 2,458 2,374 802 146 153	4,890 13,706 6,266 7,584 4,301 5,817	5,625 10,463 9,868 10,800 10,269 10,315	13,660 14,302 28,519 19,728 13,725 16,203	10,366 19,839 14,804 8,747 11,786 4,753

Electric-welded and seamless pipe over  $10\frac{1}{2}$  inches in diameter are classifiable under tariff item 397(b) at rates of 10 p.c. (B.P.) and 15 p.c. (M.F.N.). Drawback items 1018 and 1018a reduce this protection by 50 p.c. if the pipe imported is seamless over four inches in diameter or electric-welded over 16 inches in diameter, both for use in the transmission of natural gas. Domestic production has, until the present, been limited to electric-welded pipe not exceeding 16 inches in diameter. The new mill at Welland, however, will be in a position to produce pipe up to 36 inches. Production in sizes between  $10\frac{1}{2}$  and 16 inches has been relatively small and subject to sharp fluctuation. The major portion of imports under this item has been in sizes not made in Canada. Imports in sizes made in Canada have amounted to from 14 p.c. to 200 p.c. of domestic output.

Boiler tubes are classified under tariff item 399 and are duty-free from all sources. Canadian production has usually been a fraction of imports and has fluctuated greatly from year to year. As a general rule, users appear to turn to Canadian production only during periods of shortage.

#### BOILER TUBES

(tons of 2000 lbs.)

Year	Canadian Production	
1950	4.028	7.032
1951	3,949	12,242
1952	3,888	17,567
1953	573	10,349
1954	762	8,519
1955	1,850	9,158

Oil and gas well casing enters Canada duty-free under tariff item 848. The requirements for this product have greatly increased in recent years with the development of Canada's western oil resources. At the present time, consumption of this product accounts for a substantial portion of all the pipe and tube used in Canada. A major portion of the oil industry's requirements is imported from the United States and the United Kingdom in the form of seamless casing. In recent years, Europe and Japan have also been shipping sizeable tonnages to Canada. Canadian shipments have been negligible, although capacity is in existence which could produce substantial tonnages of casing. Only in periods of shortage has the Canadian producer, Page-Hersey, been called upon to supply. The reason for this lack of business for Page-Hersey was, according to statements made by the company's vice-President, that the company could not sell at a competitive price with duty-free entry of imports.

#### OIL AND GAS WELL CASINGS

(tons of 2000 lbs.)

	Canadian Prod			
Year	Seamless	Welded	Imports	
1950	1.037		33,646	
951	472	aparters.	70,323	
952	2,993	9,377	73,212	
953	1,042		95,617	
954			98,583	
955	35	158	91,833	
1956	8,395 (10 mos.)	1,753	103,624 (8 mos	

Fittings and couplings of iron or steel are classifiable under tariff item 400 at rates of 20 p.c. (B.P.) and  $22\frac{1}{2}$  p.c. (M.F.N.). Domestic producers have supplied from 85 to nearly 95 p.c. of Canadian requirements in the years since 1950. During the last four years, imports have been consistently greater both tonnagewise and in percentage terms, although still supplying only from 10 to 15 p.c. of the market. Canadian production has fluctuated considerably since 1950, largely because of changes in demand and, to a much lesser degree, because of greater imports: i.e., while demand fell by 10,800 tons between 1948 and 1954, imports increased by about 3,000 tons.

#### PIPE FITTINGS OF IRON OR STEEL

(tons of 2000 lbs.)

Year	Canadian Production	Imports	Domestic Supply	Imports as p.c. of D.S.
1926	$26,000^{1}$			
1929	35,230	_		
1933	5,571			-
1937	16,866			
1941	33,127		annine man	
1946	45,371	1,716	47,087	3.6
1948	57,185	2,446	59,631	4.1
1950	53,265	3,072	56,337	5.4
1951	51,450	5,077	56,527	9.0
1952,.,	40,970	7,229	48,199	15.0
1953	43,420	6,022	49,442	12.2
1954	43,050	$5,571^{1}$	48,801	11.8
1955	53,569	$6,311^{1}$	59,880	10.5

<sup>&</sup>lt;sup>1</sup> Estimated from dollar figures.

The foregoing can perhaps be summarized in the following terms: Production of buttweld pipe and electric-weld pipe has far outweighed the output of all other types of pipes and tubes. The greatest volume of existing domestic production is therefore protected by rates of duty ranging from 10 to 15 p.c. (B.P.) and from 15 to  $22\frac{1}{2}$  p.c. (M.F.N.). While certain end-use or drawback items dilute or remove this protection overall, it appears to be largely intact for those types of pipe produced in the greatest volume. Apparently because of this fact, imports of buttweld and electric-weld pipe are relatively small, leaving the bulk of the market to domestic producers. On the other hand, Canadian producers have had a relatively minor share of the market for types of pipe which have relatively little tariff protection. Scamless pipe, boiler tubes and casing are in this category. The entry of Mannesmann may change this picture as this firm intends to specialize in seamless pipe and casing. The introduction of agreed freight charges on casing from Eastern Canadian production points to Alberta is also a new factor of definite consequence to the producers.

#### DISTRIBUTION OF PIPES AND TUBES

This section attempts to do two things: to show the relative magnitude of pipe and tube shipments to the various regions of Canada, and to indicate the distribution of imports on a regional basis. Such information assists in evaluating the impact of freight charges and freight differentials on the distribution of both domestic and imported products. It also affords a better perspective as to what various pricing measures, such as freight allowances, mean in terms of the volume of trade affected and the geographic distribution of such trade. This section is, therefore, closely related to later sections dealing with freight charges and prices.

The first table below indicates the percentage distribution of shipments, by domestic producers, of all steel pipes and tubes. It shows that Ontario and Quebec still comprise the largest single market, although their share decreased from 69.3 p.c. in 1952 to 60.1 p.c. in 1955. Alberta and Saskatchewan have, as is to be expected, become increasingly important users of pipe; their combined consumption increased from 14.6 p.c. in 1952 to 29.7 p.c. in 1955. British Columbia, Manitoba and the Maritime Provinces normally use less than 5 p.c. each.

Provincial Distribution of Shipments by Canadian Producers (Provinces as p.c. of Canada total)

Year	B.C.	Alta.	Sask.	Man.	Ont.	Que.	Maritimes	Canada
1952	4.5	12.0	2.6	8.7	49.3	20.0	2.9	100.0
	4.6	13.2	6.1	2.9	47.5	22.8	2.9	100.0
	4.4	15.9	9.1	2.9	41.7	23.2	2.8	100.0
	4.7	17.4	12.3	2.6	38.5	21.6	2.8	100.0

In 1954 and 1955, the tonnages of imported steel pipe and tubes amounted to 130 p.c. and 50 p.c. respectively of Canadian production (imports were roughly 294,000 tons in 1954 and 163,000 in 1955). The provinces receiving the major share of these imports are British Columbia, Ontario and Alberta. British Columbia uses much more imported than domestic pipe; in Alberta also, imported pipe has greater use than Canadian, largely because of imports of casing and line pipe of large diameter. In Ontario, there has been greater usage of domestic pipe, although imports make up a very sizeable proportion of total consumption of pipe; Quebec and the Maritimes use considerably more domestic than imported pipe. It must be kept in mind that these are generalizations and vary considerably from year to year.

# Provincial Distribution of Imports (Provinces as p.c. of Canada total)

Year	B.C.	Alta.	Sask.	Man.	Ont.	Que.	Maritimes	Canada
1952	30.6	31.1	2.7	1.3	21.1	12.6	0.6	100.0
1953	27.1	29.5	5.9	8.9	20.5	7.3	0.7	100.0
1954	13.7	23.6	26.0	5.5	22.7	7.8	0.7	100.0
1955	29.7	16.3	7.0	7.2	28.0	9.8	1.9	100.0

The following data show (for domestic production and for imports) the distribution of pipes, by types:

#### Cast Iron Water-Pipe

Ontario and Quebec are by far the chief markets for water-pipe, accounting for 74.3 p.c. of total Canadian supply in 1955. The Prairies, British Columbia and the Maritimes used 11.8 p.c., 8.5 p.c., and 5.5 p.c., respectively, in 1955, as shown in the table:

Year	B.C.	Prairies	Ont.	Que.	Maritimes	Canada
1954	16.6	9.3	40.2	28.0	5.9	100.0
1955	8.4	11.8	45.9	28.4	5.5	100.0

Imports of cast iron water-pipe in 1955 amounted to 21,076 tons, or about 15 p.c. of domestic production of 119,225 tons in the same year. The largest tonnages of imports entered Quebec, British Columbia and Ontario, in the order named. Imports formed the major proportion of provincial supply in those provinces on the two coasts, namely in British Columbia, Nova Scotia and Newfoundland. However, something less than 50 p.c. of total imports entered these provinces. Because of the limited size of the pipe demand in such areas, imports usually made up better than half of total local supplies.

In 1955, more than half the total tonnage of imported water-pipe entered Quebec and Ontario. The size of these markets was such, however, that imports accounted for 10.7 p.c. of total supplies in Quebec and only 1.9 p.c. in Ontario. From the point of view of imports, nevertheless, these provinces obtained equal or greater tonnages of pipe from abroad than all the rest of

Canada.

The table following shows the percentage of regional markets held by imports in 1954 and 1955:

Imports	as Percent	of Total	Supply
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Year	B.C.	Prairies		Que.	N.B.		Nfld.	Canada
1954 1955	94.1 84.4	0.9	$\frac{4.6}{1.9}$	8.9 10.7	18.4 20.0	88.6 59.3	93.7 68.3	$\frac{24.0}{13.7}$

#### Cast Iron Soil-Pipe

As is to be expected, the two central provinces provide almost 60 p.c. of the market for all soil-pipe in Canada; British Columbia and Alberta are also important users, but on a smaller scale. Distribution figures are available for the larger producers and these show the following market division—by provinces, as percentages of the Canadian total in 1955:

I	3.C.	Prairies	Ont.	Que.	Maritimes
1	1.9	22.8	40.7	18.6	6.0

Imports have been small, 4,330 tons in 1955, amounting to 9 p.c. of domestic supply. Quebec usually has taken half of total imports, with British Columbia taking about one-quarter. The tonnages entering Ontario and the Prairies from abroad have been very small.

#### Steel Pipe and Tubes

The following data are based on distribution breakdowns for 1955:

More than 70 p.c. of domestic production of buttweld pipe is used in Ontario and Quebec. Alberta uses well over 10 p.c., the remainder being fairly evenly distributed among the other larger provinces. Separate import statistics for this type of pipe are not available; it has been estimated that these amount to a very small percentage of domestic output.

Electric-welded pipe and tubing in small sizes, four and one-half inches and under in diameter, are marketed chiefly in Ontario and Quebec, where

78 p.c. of domestic production was sold in 1955. The Prairie Provinces provided the second largest consuming area, taking 16 p.c. of Canadian output. Imports of tubes are substantial under end-use items and since most of the beneficiaries of such tariff items have their plants in Ontario, it is only logical to believe that a fair proportion of the imports enter Ontario. Imports are not sufficiently sub-divided to confirm this assumption or the probability that sizeable tonnages of tubing have entered Alberta for use in the oil country.

The distribution pattern for medium-sized pipe, four and one-half inches to 16 inches, is largely tied in with western oil developments, since much of this pipe is used in gathering and distribution lines. In 1955, the distribution of domestic-produced pipe of medium diameter shows that something better than 50 p.c. went to the Prairies, much of the remainder having been supplied to Ontario and Quebec. British Columbia and the Maritime Provinces used relatively little medium-sized pipe of domestic manufacture.

Oil and gas well casing is, of course, marketed almost entirely in western Canada.

The small domestic production of pressure (boiler) tubes is marketed almost exclusively in central Canada. The great bulk of imports, which are many times greater than domestic production, enters Quebec and Ontario; smaller quantities find their way to the Maritimes, the Prairies and British Columbia.

Seamless pipe, other than boiler tubes and oil-country goods, is consumed almost entirely in Ontario and Quebec, only very small tonnages being used in other regions.

The foregoing has shown that for the following types of pipe, the major Canadian market is in Ontario and Quebec: cast iron water- and soil-pipe, buttweld, electric-weld four and one half inches or under, boiler and seamless. Because of this concentration, Canadian producers have freight advantages on these types of pipe in approximately 75 p.c. of the total market. Similarly, while Canadian consumption of oil-country goods is at a considerable distance from Canadian points of production, the recent introduction of agreed freight charges has changed a definite freight disadvantage to one of considerable advantage. The large market for medium diameter pipe of from four and one-half to 16 inches is also in western Canada and, in the absence of agreed charges, adverse freight differentials are a considerable handicap to Canadian producers.

#### FREIGHT RATES ON PIPES AND TUBES

Freight charges are an important factor in determining the competitive position of domestic pipe and tube producers in Canadian markets. The producer who is closer to a particular market, or who has the benefit of a lower freight rate than his competitors, has an advantage which may be very considerable, as freight costs are often substantial in relation to the f.o.b. factory price of pipes or tubes. Conversely, where the producer is at a considerable distance from a given market, he is likely to find that freight charges on products such as pipes and tubes make it difficult or even impossible to compete with producers who are closer to the market or who have access to more favourable freight rates. This section shows in general terms the freight rates which apply from the main production points in Canada, the United States and overseas to the principal Canadian markets for pipes and tubes. From these it is possible to assess the advantages or disadvantages facing Canadian producers as a consequence of transportation costs. The rates used are those in force on September 1, 1956, which take into account the interim

increases effective on July 3, 1956. The application of the railways for a 15 p.c. increase in rates above the levels in force prior to July 3, 1956, was pending before the Board of Transport Commissioners at the time of preparation of this Report.

Rates are provided for each of the more important types of pipes and tubes, as follows: electric-welded tubes, welded and seamless pipe, cast iron soil-pipe and fittings, cast iron water-pipe and fittings, and pipe fittings of iron or steel. The descriptive material of this section is also sub-divided under these headings since the factors relating to the trade in the various types of pipe differ and must be examined separately.

In the following text the term "freight differential" refers to the difference in freight costs to any given market from a Canadian mill, as compared with those from a non-Canadian mill. In all cases, the lowest Canadian freight charge, allowing for seasonal adjustments, is compared with the lowest charge for laying down non-Canadian pipes or tubes. An "adverse" or "unfavourable" differential is the amount by which freight costs from a Canadian mill exceed those from a non-Canadian mill; a "favourable" differential is the opposite of the above. It must, of course, be kept in mind that the freight charges to any stated point will differ from mill to mill, unless two mills are located in close proximity. It has been thought logical, however, to calculate differentials on the basis of freight from the nearest mill, provided it has the capacity to produce tonnages which have some relationship to the requirements of a region. If there is doubt on this point, the freight costs for a number of mills are considered.

The term "agreed charge" refers to rates agreed to by the shippers and the railways. One of the provisions of such agreements is that the shipper will send a stipulated proportion of his business by rail.

#### Electric-Welded Tubes

The great bulk of Canadian-produced tubes is made at Welland and Woodstock, by Page-Hersey and Standard Tube and T.I. respectively; several smaller producers are also located in central Ontario. It would appear that all these producers gain more from freight differentials in their chief markets than they lose. For example, the domestic mills enjoy freight advantages over non-Canadian competitors in Ontario, where consumption is considerably more than half of the total for Canada. At Toronto, Page-Hersey has an advantage of 14 cents per 100 pounds over the nearest United States source; Standard Tube's advantage is less, being three cents. The one notable exception where Canadian producers are at a disadvantage in Ontario (as they are in basic steel) is the Windsor area. Page-Hersey also has an advantage (20 cents per 100 pounds) in the important consuming area in and around Montreal vis-a-vis United Kingdom; Standard Tube, at a somewhat greater distance from Montreal, is at a freight disadvantage of about 11 cents. At practically all points east of Montreal, Canadian producers are at a disadvantage freightwise with overseas competitors; consumption in such regions is relatively light.

West of Winnipeg, freight charges tend to place the domestic producers at something of a disadvantage, although the adverse differentials are often small. At Calgary, for example, Page-Hersey is faced with an unfavourable differential of about five cents per 100 pounds in the summer and 12 cents in the winter. Agreed charges from Welland to Vancouver give Page-Hersey an advantage of 70 cents over United States competitors located in Chicago, but a disadvantage of about 25 cents vis-a-vis United Kingdom.

The larger Canadian producers of electric-welded pipe are located at Welland and Port Moody, B.C. A new mill at Edmonton and a second plant at Welland, to produce large diameter pipe, are scheduled to begin production in the near future. Buttweld pipe is made in Montreal and Welland. Seamless steel pipe is made at Welland and a second mill, Mannesmann Tubes, is nearing completion at Sault Ste. Marie.

For small diameter pipe (four inches and under) the Montreal mills are on approximately equal terms with overseas suppliers in most of the Maritime Provinces. These Montreal mills have very great advantages over both foreign and other domestic mills in selling in Montreal and the rest of Quebec Province, which is an important user of pipe. At Quebec City, the differential in their favour is approximately 46 cents per 100 pounds in relation to imports: at Montreal, it is 73 cents against imports and 54 cents against Page-Hersey at Welland. Similarly, in Ontario (which together with Quebec uses more than 75 p.c. of Canadian consumption of smaller diameter pipe) Page-Hersey has substantial differentials in its favour. At Toronto, the advantage amounts to 47 cents per 100 pounds, while in Hamilton it is even greater. The Montreal mills enjoy favourable freight differentials into eastern Ontario and at least as far west as Toronto as regards imports. In Manitoba, Page-Hersey is on fairly equal terms with United States mills but in the other prairie provinces it faces unfavourable freight differentials. The western market, however, is also served by Canadian Western Pipe Mills, Limited, at Port Moody, British Columbia; this producer has an advantage of almost 90 cents at Vancouver and even greater advantages in Alberta.

Pipe over four inches is at present made only by Page-Hersey at Welland. The new mills-Welland Tubes; Mannesmann at Sault Ste. Marie; and Alberta Phoenix at Edmonton-will also produce pipe in larger sizes. All these mills are at a freight disadvantage in Quebec City and more easterly points, vis-a-vis overseas competition. At Quebec City the unfavourable differential for Page-Hersey is 25 cents per 100 pounds; this difference also holds true for many points in the Maritime Provinces. Consumption of medium diameter pipe is small in eastern Canada. In the Montreal area and in all of Ontario, Page-Hersey derives freight advantages; at Toronto such advantage amounts to 53 cents. In certain recent years, Ontario and Quebec have provided a market for about one-quarter of total Canadian consumption of pipes between four and one-half and 16 inches in diameter. At Winnipeg, Page-Hersey is on equal terms with suppliers in the United States but further west this firm is at a disadvantage of 7 cents at Regina, up to 40 cents at Edmonton, and 27 cents at Vancouver. The new mill in Edmonton will, of course, have a freight advantage in prairie markets, but it will be faced with relatively high freight charges on its raw material, skelp. The prairie provinces account for more than 50 p.c. of all pipe from four and one-half to 16 inches used in Canada.

Oil well casing and tubing are used almost exclusively in the west and are now subject to agreed charges. As a consequence, the freight charges from Welland and Sault Ste. Marie, the two producing points, are much below those from competing mills in the United States. It would appear that Page-Hersey has an advantage of \$1.16 per 100 pounds at Calgary and \$1.36 at Edmonton. Mannesmann, apparently, will have an even greater advantage amounting to \$1.38 at Calgary and \$1.58 at Edmonton. These comparisons are based on Lorain as the United States point of supply.

It is important to note that the observations in the preceding paragraph apply only to oil-country goods of United States origin. A very different situation, however, apparently will prevail as regards oil-country goods arriving at

west coast ports from overseas. When this report was ready for the printer, the Tariff Board learned that Canadian Western Pipe Mills Limited, Port Moody, B.C., and the Canadian Pacific Railway had completed an arrangement on December 6, 1956, whereby agreed charges on oil-country goods became effective on December 27, 1956, between Port Moody and points in British Columbia, Alberta, Saskatchewan and Manitoba. These agreed charges are much lower than the rates previously in force; for example, the new rates from Port Moody will be 60 cents to Calgary, 69 cents to Edmonton and 102 cents per 100 lbs. to Estevan. In January 1956 Canadian Western Pipe Mills will begin limited production of oil-country goods; in addition, the company will import from overseas. Ocean freight rates from Europe to Vancouver for pipe have been in the neighbourhood of \$1.00 per 100 lbs., thus overall freight from Europe would be approximately \$1.60 to Calgary and \$1.69 to Edmonton. This compares with Mannesmann's rate from Sault Ste. Marie of \$1.39 to both points. The significance of these new rates becomes obvious from the statistics of recent importations of casing, by sources:

Source	1955	1956 (8 months)
United States	37,660 tons	44,062 tons
United Kingdom	10,607	11,375
Germany	4,009	5,183
Belgium	875	727
Czechoslovakia	_	352
France	11,130	6,261
Hungary		169
Japan	23,061	30,586
Italy	4,491	4,909
Fotal	91,833	103,624

The statistics show that something less than half of total imports are from the United States; the greater part originates from overseas sources. The new agreed charges at present apply only to shipments from overseas which pass through the hands of Canadian Western Pipe Mills at Port Moody; the favourable freight advantage of eastern Canadian producers will be relatively slight in relation to such shipments.

# Cast Iron Soil-Pipe

Domestic foundries casting iron soil-pipe are located in Quebec, Ontario, Manitoba, Alberta and British Columbia. As a consequence, the only region in Canada where the industry, as such, does not have a freight advantage is the Maritime Provinces. In other parts of Canada, each foundry has an advantage in its own region over other foundries, whether they be Canadian or non-Canadian. At Montreal, local producers have an advantage of 73 cents per 100 pounds over the United Kingdom, which is the closest non-Canadian source in terms of freight charges; at Toronto the advantage for local foundries over Buffalo runs as high as 52 cents. At Winnipeg, Anthes-Imperial has a considerable advantage over non-Canadian competitors. This firm also operates a foundry at Edmonton where its local advantage is substantial. At Vancouver, Associated Foundry has an advantage of around 84 cents over ocean borne soil-pipe from the United Kingdom.

### Cast Iron Water-Pipe

Canadian producers of cast iron water-pipe, located at Trois Rivieres, Toronto and Winnipeg, enjoy freight advantages in all of Canada except parts of Alberta, British Columbia and certain areas of the Maritime Provinces. In

most other regions the favourable freight differential is substantial; for example, at Montreal it is 50 cents per 100 pounds. In British Columbia, ocean-transported pipe from the United Kingdom has an advantage in excess of 25 cents, which accounts for the fact that more than 50 p.c. of imported pipe enters British Columbia.

#### Pipe Fittings

Pipe fittings may be made from cast or malleable iron, from cast steel, or from steel pipe. No distinction between these types of fittings is made in the freight rate structure. If fittings are shipped with a consignment of pipe, the freight rate applying to the pipe will also apply to the fittings. In instances where the fittings alone are shipped, they may be subject to rates distinct from those applying to pipe. Canadian fitting manufacturers apparently have freight advantages in practically all of Canada, with the possible exception of Vancouver. At Montreal and Toronto, two of the largest consuming centres, the advantages amount to \$1.06 and \$0.90 per 100 pounds, respectively, over United States mills.

#### COSTS OF STEEL FOR PIPE- OR TUBE-MAKING

The raw material for the production of buttweld or electric-weld steel pipes or tubes is a flat-rolled steel product known to the trade as "skelp"; this may be strip-skelp, sheet-skelp or plate-skelp, depending upon the type and size of pipe or tube to be produced. The material used by the seamless pipe or tube producer is a billet or so-called tube round. Either raw material entering a steel pipe or tube plant requires only reheating before being worked.

The cast-iron pipe producer, on the other hand, melts foundry pig iron and cast-iron scrap to obtain a metal for casting.

There are three skelp producers in Canada—Algoma Steel Corporation Limited, producing skelp in widths ranging from 4 inches to 25 inches for the production of pipes or tubes in sizes ½-inch to 7-inch O.D.; Dominion Foundries and Steel Limited and The Steel Company of Canada Limited, both producing skelp in widths ranging from 18 inches to 51 inches for the production of pipe in sizes 5-inch to 16-inch O.D.

Canadian pipe and tube makers buy their skelp from these domestic sources at a lower laid-down price than that at which it can be secured from United States or other non-Canadian skelp producers. Prices of United States skelp delivered to Canadian pipe mills are higher because of the 5 p.c. duty and the freight disadvantage. At Welland, for example, skelp suppliers in both Hamilton and Sault Ste. Marie have a freight advantage over Youngstown, the chief United States supplying point. Some of the newer pipe mills, however, have found that there is not sufficient skelp production to meet their requirements and others believe that an imported Bessemer skelp is more useful for their purposes to date. On balance, nevertheless, only a small proportion of total Canadian skelp requirements comes from non-Canadian sources.

While Canadian pipe producers find it advisable on a price basis to buy from Canadian skelp sources, they are at a distinct disadvantage vis-a-vis their United States and, presumably, their United Kingdom competition when it comes to comparative cost of raw material. Most United States pipe producers competing in the Canadian market are integrated; they produce their own skelp or obtain it from associated or affiliated companies that are very close to their scene of operations. The one notable exception is the A. O. Smith Corporation in Milwaukee, buying its skelp from independent sources in Chicago.

Apart from the cost of skelp as a product, this integration certainly represents savings in freight charges. In contrast with National Tube at Lorain, Ohio. which produces its own skelp, Page Hersey, for example, in buying from Sault Ste. Marie, faces a freight haul that lands its raw material at its plant somewhere around 7 p.c. higher than the price paid by National Tube (assuming that skelp is charged into the National Tube pipe mill at prevailing open market United States price). For that portion of its skelp purchased from Youngstown, Page-Hersey's skelp cost is about 11 p.c. higher, including duty. pipe mills have a landed cost from their Canadian source that is approximately 8 p.c. higher than that of their United States competitors; and from Youngstown, a landed cost approximately 14 p.c. higher, including duty. Canadian Western Pipe Mills at Port Moody, B.C., has a landed cost from its Canadian source (which supplies by far the greater part of its requirements) that is about 22 p.c. higher than that of United States pipe mills, and a landed cost from Germany that is about 40 p.c. higher. Alberta Phoenix at Edmonton is at present buying the greater part of its skelp requirements from United States sources and has a landed cost from Detroit that is about 43 p.c. higher than the price paid by its United States competitors; on skelp from Sault Ste. Marie its cost would be about 32 p.c. higher.

Skelp costs represent about 65 p.c. of the cost of producing pipe.

While most pipe mills in the United States are integrated and have their skelp supplies close to their pipe mills, the same is not true of tube producers in that country, who buy on the open market; in this respect, tube producers in Canada and the United States are in much the same position.

Page-Hersey has been the only Canadian producer making seamless tubular products, and hence the only user of billets. Although Standard Tube undertakes certain finishing operations on seamless tubes it does not begin at the billet stage. Page-Hersey obtains its billets mainly from Canadian sources whose mill price is slightly higher than the United States price at the mill. In addition, freight charges for the Canadian pipe producer range from \$1.40 to \$4.70 per ton whereas United States pipe producers are integrated with steel producers.

The plant that Mannesmann is building at Sault Ste. Marie is located on a site adjacent to the plant of Algoma Steel. Mannesmann will obtain its billets or tube rounds from Algoma production.

Competition for Canadian cast-iron pipe producers comes mainly from United Kingdom sources. Raw material costs for the Canadian producer are much higher than those for the United Kingdom producer, the most pronounced disadvantage being in respect of scrap, although Canadian pig iron costs are also higher. On scrap, Canadian costs are apparently more than 100 p.c. greater than United Kingdom costs while on pig iron they are more than 25 p.c. greater.

The ratio of pig iron to scrap in the cupola charge varies in keeping with the pricing of each. In Canadian practice the ratio has ranged from 30/40 p.c. pig iron to 60/70 p.c. scrap. Cast-iron scrap commands a premium price.

#### PRICING OF PIPES AND TUBES

In the following study, comparisons have been limited to one size and one weight of any one type of pipe or tube. The size and weight is usually one of the more popular, and the pricing is generally representative of the spread between Canadian and non-Canadian products.

The bases of comparison have been the f.o.b. mill price and the delivered base price of similar quantities under the same conditions of sale to the same class of trade. Except where otherwise noted, the f.o.b. mill price is a "base"

price excluding extras or deductions; extras or deductions are somewhat similar in both Canadian and United States practice and in the interests of simplification can usually be eliminated. To these f.o.b. mill or base prices there has been the addition of full freight charges, to develop a "delivered base" price for purposes of comparison at given destinations. The freight charges used are those from the nearest non-Canadian mill (or warehouse) to a given destination, and those from the most important Canadian mill to the same destination.

The price information used in this section has been obtained from a wide variety of sources, and checked and re-checked wherever possible. Unless otherwise noted, the pricing is current as of September 1st, 1956. No adjustments have been made for exchange differentials; dollars were taken as at par and the pound sterling at \$2.80.

Buttweld or Continuous Weld Pipe: The comparison was based on 1-inch standard black pipe, threaded and coupled (standard couplings), weighing 1.684 lbs. per foot, shipped in carload lots and sold to wholesale distributors.

Buttweld pipe is produced by Dosco, Page-Hersey and Stelco, all three of which have the same f.o.b. mill price, the same f.o.b. points, and the same freight equalization policy. Their f.o.b. mill price is approximately 20 p.c. higher than that of United States mills competing in Central and Eastern Canada. Pipe from these United States sources entering Canada under tariff item 397 (a) faces a  $22\frac{1}{2}$  p.c. rate of duty and is at a freight disadvantage (as a percentage of its f.o.b. price) that amounts to around 13 p.c. at Montreal and 6 p.c. at Toronto. At such pricing, very little United States buttweld pipe is imported into the Central Canadian market—by far the most important area for the sale of buttweld or so-called plumbers' pipe. Another factor serving to further increase the differential between Canadian and United States pipe is the existence of internal freight equalization as a consequence of domestic competition. Internal domestic competition and competition from United Kingdom sources create a condition where domestic producers cannot take full advantage of the M.F.N. tariff under 397(a).

With regard to United Kingdom competition, Canadian f.o.b. mill prices are about 50 p.c. higher than the United Kingdom f.o.b. export port prices. The freight advantage held by Canadian mills, amounting to about 11 p.c. (of f.o.b. export price) at Montreal and 4 p.c. at Vancouver, plus, in each case, duty under 397(a) of 15 p.c., still permits the United Kingdom product to land at a lower price than the Canadian. However, United Kingdom products normally enter Canadian warehouse and by the time handling, warehouse charges, and mark-up are added, the pipe sells for something close to the prevailing Canadian market price.

Seamless Pipe: In this instance the pipe chosen for comparison was 2-inch black, standard weight seamless pipe (3.678 lbs. per foot), threaded and coupled, random lengths, shipped in carload lots and sold to wholesale distributors.

Page-Hersey at present is the only producer of seamless pipe in Canada, and its f.o.b. mill prices are approximately 21 p.c. above those of United States mills. With no internal domestic competition, Page-Hersey has been in a position to take full advantage of the tariff plus its freight advantages.

United States mills competing in Canada face a duty of  $22\frac{1}{2}$  p.c. under tariff item 397(a), and have a freight disadvantage that amounts to about 5 p.c. at Montreal and Toronto. In shipping into Winnipeg and other Western centres in the Prairies, the nearest United States mill has a small freight advantage.

United Kingdom seamless pipe laid down in Vancouver at a diverted price competes as far inland as Edmonton. A diverted price involves direct movement from the docks to the customer without the pipe entering a Canadian warehouse. When warehoused, the pipe becomes slightly more costly.

The Canadian producer has retained the greater part of the market for scamless pipe classifiable under tariff item 397(a). However, other items provide for free entry or low rates of duty and when pipe is admissible thereunder the

Canadian producer apparently cannot compete in price.

Cast-Iron Soil-Pipe: Comparisons were based on 3-inch, single hub, medium weight, cast-iron soil-pipe sold in carload lots. While there are many foundries throughout the country producing soil-pipe, the two chief producers—Warden King with its plant in Montreal, and Anthes-Imperial with plants in St. Catharines, Winnipeg and Edmonton—were chosen for price comparison with imported products.

Both Warden King and Anthes-Imperial have varying price lists depending upon the section of the country to which shipment is made. In effect, such pricing is designed to meet both domestic and import competition, net realization at the plant varying with the degree and intensity of such competition. The average net realization (i.e. average f.o.b. mill price) to Warden King on all its sales was approximately 45 p.c. higher than the United Kingdom f.o.b. export port price. The average net realization of Anthes-Imperial was approximately 55 p.c. higher than United Kingdom f.o.b. export port price. The United Kingdom is the only source supplying soil pipe to Canada in sizes that are made by Canadian producers.

Handling, warehouse and jobber mark-up eat into the price advantage that United Kingdom soil-pipe has f.o.b. wharf, Canadian port. During the course of 1956, no United Kingdom soil-pipe was sold in Toronto or Edmonton, sales being confined to ocean ports such as Halifax, Montreal and Vancouver.

Cast-Iron Pressure Pipe: Comparisons of price in connection with pressurepipe relate to a number of actual transactions; at the time of writing no other data were available. Canada Iron Foundries with plants at Trois Rivieres and Toronto is the only Canadian supplier of the central market; the company also sells on the East and West Coasts. Anthes-Imperial, with its plant at Winnipeg, sells in Manitoba, Saskatchewan and part of Alberta. United Kingdom sources provide competition at those points to which their product can be carried by ocean vessel. At Vancouver, United Kingdom price f.o.b. trucks for 6-inch bell and spigot cast-iron pressure-pipe was 7 p.c. lower than the Canadian price; at Montreal, for 6-inch mechanical joint, approximately 8 p.c. lower; at Quebec City, for 6-inch mechanical joint, approximately 11 p.c. lower; at Halifax, for 6-inch mechanical joint, approximately 21 p.c. lower. Mechanical joint pipe constitutes approximately 80 p.c. of total cast-iron pressure-pipe sold in the Canadian market. The two Canadian companies and their United Kingdom competitors have differing types of mechanical joint and differing costs of production. However the products serve the same purpose, are therefore competitive, and must be compared on a price basis. Cast-iron pressure-pipe imports come mainly from the United Kingdom.

Electric-Resistance Weld Pipe: Comparisons were based on 10-inch standard black pipe with a weight of 40.48 lbs. per foot, plain or bevelled ends, shipped in random lengths, carload lots and sold to wholesale distributors (tariff item 397(a)). A comparison was also made on 12-inch pipe admissible under tariff item 397(b).

Page-Hersey is the only Canadian producer at present of larger-sized electric-resistance weld pipe. On the 10-inch size, its f.o.b. mill price is

about 21 p.c. higher than that of eastern United States mills, which face a duty of  $22\frac{1}{2}$  p.c. under item 397(a) plus a freight disadvantage of roughly 6 p.c. at Toronto. On shipments to Winnipeg, the freight position is roughly equal but the Canadian producer absorbs freight to the extent of 40 cents per hundredweight.

On the 12-inch size, the f.o.b. mill price of Page-Hersey is about 13 p.c. higher than that of eastern United States mills. United States mills competing in Toronto face a 15 p.c. duty plus freight disadvantage of roughly 6 p.c. On sales in western markets Page-Hersey absorbs freight to the extent of 40 cents per hundredweight.

Electric-Weld Mechanical Steel Tubing: The item chosen for comparison was 1-inch, 16-gauge, .65 lbs. per foot, SAE 1010 round tubing, flash-in-grade, in random lengths of 10 feet to 24 feet inclusive, shipped in quantities of 20,000 to

30,000 feet or pounds.

Standard Tube and T.I. Limited, of Woodstock, produces by far the largest amount of electric-weld mechanical steel tubing in Canada. Its f.o.b. mill price is about 6 p.c. lower than the counterpart price of United States mills or warehouses close to the Canadian border. The counterpart price used for comparison is a base price plus extras and deductions to obtain length, quantity and grade comparable to Standard's published price. Starting with a lower f.o.b. mill price, Standard has a very decided advantage over import competition that faces a  $22\frac{1}{2}$  p.c. duty under tariff item 397(a). As a consequence of such pricing differential, there is almost no electric-weld mechanical steel tubing imported under that item. Non-Canadian products are in a position to compete where admissible under end-use tariff items, especially where they have small freight advantages in such centres as Montreal and Windsor. Such imports as do enter under these tariff items usually move direct to the customer rather than through a Canadian warehouse.

The present pricing policy followed by Standard Tube is apparently an attempt to develop and retain the Canadian market, the tariff being used solely as a deterrent to imports but not with a view to increasing Standard's own price.

Electric-Weld Pressure Steel Tubing: Comparisons were based on 2-inch electric-weld pressure steel tubing produced to ASTM specification A-178 in a weight of 2.76 lbs. per foot, with a wall thickness of .120, shipped in random lengths of 10 to 24 feet inclusive and in quantities of 40,000 pounds or feet or more.

The chief producer in the line is Standard Tube and T.I. Limited, of Woodstock, with f.o.b. mill prices roughly equal to those in the United States. Page-Hersey is also a supplier. Competition at given Canadian destinations becomes a matter of freight advantage or disadvantage, since pressure steel tubing is admissible free of duty under tariff item 399. At Montreal, Standard Tube's price is about 1.5 p.c. higher than United States delivered prices; at Toronto, 5 p.c. higher; at Windsor, 2.9 p.c. higher; and in the west equal to, or slightly less than, the price of imports from the United States.

The strongest competition facing Canadian producers is apparently that provided by United Kingdom mills. At Montreal and Vancouver, Standard's price is about 19 p.c. higher than the c.i.f. price of imports from the United

Kingdom.

Oil-Well Casing (Seamless and Welded): Comparisons were based on  $5\frac{1}{2}$ -inch O.D. black seamless oil-well casing,  $15\frac{1}{2}$  lbs. per foot, grade J.55, produced to API standard 5A, with short couplings, shipped in carload lots.

Page-Hersey, in the Fall of 1956, did not have a price list for seamless oilwell casing. However, its f.o.b. mill price as of July, 1956, had been approxi-

mately 30 p.c. higher than that of United States mills. These latter face a freight disadvantage, based upon Lorain, Ohio, amounting to about 13 p.c. at Calgary and 15 p.c. at Edmonton but were still able to land their product at these destinations at a much lower price than that of the Canadian company.

During the second quarter of 1957, according to its announced plans, seamless oil-well casing will be produced and shipped by Mannesmann Tube Co. Ltd. from its plant at Sault Ste. Marie, at prices predicated upon meeting import competition. The company has a very definite freight advantage which will provide it with a higher net realization at mill than that enjoyed by United States mills on sales in Canada. Mannesmann is quoting only on volume sizes, weights, and grades, and will not be producing a full range until sometime in 1958.

For the first quarter of 1957, Page-Hersey is quoting on welded oil-well casing to the specifications and under the conditions noted in the preamble to this section—volume sizes, weights and grades only. In such quotations the company's f.o.b. mill price appears to be about 30 p.c. higher than the f.o.b. mill price of competing United States mills, and despite a sizable freight advantage, will have a higher delivered price than the imported product.

United Kingdom prices of seamless oil-well casing, delivered, fall somewhere between United States/Mannesmann and Page-Hersey delivered prices. Japanese prices apparently have been much higher than those of Page-Hersey, both having booked business on the basis of ability to supply during periods of shortage.

Oil-Well Tubing: Comparisons were based on seamless oil-well tubing  $2\frac{3}{3}$ -inch O.D., 4.70 lbs. per foot, black, upset, to API standard 5A, grade J.55, in carload lots.

The only Canadian producer of such tubing at present is Page-Hersey whose f.o.b. mill prices are about 20 p.c. higher than those of United States mills. The company's freight advantage of roughly 10 p.c. brings its landed price at western points to somewhere around 8 p.c. above that of imports from the United States. Page-Hersey's prices are slightly higher than those of United Kingdom producers.

#### PART III

#### "OIL-COUNTRY GOODS"

The term "oil-country goods" is generally recognized as meaning oil well casing, tubing and drill pipe, as installed and used below the wellhead. In other words, the phrase oil-country goods covers "down-hole" tubular products.

"Drill pipe" is that pipe which is used in drilling for oil. It is usually made from cold-drawn carbon or alloy seamless steel tubing. This pipe, which is withdrawn when drilling is completed, is made to strict specifications and fine tolerances, is subjected to severe strain in drilling operations, and is used in many sizes.

"Casing" is that pipe which is inserted into the hole and serves as the "lining" of the well. Its chief functions are to keep the earth from falling into the well and also as a protection against "blow-outs" in areas where high pressures are encountered. Casing is therefore made to strict specifications, which stipulate the amount of pressure which each type must be able to withstand.

"Tubing" is inserted inside the casing and serves as the channel for conveying the oil or gas to the surface, under pressure.

Most oil-country goods are made to specifications drawn up by the American Petroleum Institute, commonly referred to as the API. The API membership embraces both producers and users, who jointly draw up the various specifications applying to each type of oil-country goods. These specifications are published by the API in a series of reference handbooks, where they are set forth in great detail. Under the API code, a producer's plant is inspected and if the production methods employed meet the required standards the plant is certified as an approved producer. It is understood that for most of the casing used, the API standards are accepted by the users without reservation and that they set their own specifications only for certain types of casing which are used in relatively small quantities, e.g., certain types of deep-well casing. This statement must be qualified, however, in the light of the users' overriding preference for seamless tubing and casing: this aspect of casing standards is dealt with in the following material.

# Tupes and Sizes:

As mentioned above, drill pipe is made and used in many sizes and must meet most exacting specifications.

Casing is made in a number of grades, each of which in turn is further sub-divided by sizes and weights. The most commonly used grades of casing are known in the trade as J.55 and H.40. Lesser quantities of N.80 and P.110 are also used. The symbols designate grades of casing having various strengths; it is, of course, necessary to use progressively stronger casing as a hole increases in depth. H.40 is sometimes known as "surface string" and may be used for lining the first 600 feet of a well; it has a yield strength of 40,000 pounds per square inch. Further down the hole, J.55 is used to considerable depths (the wall thickness increases with depth) and the yield strength of J.55 is 55,000 pounds per square inch. In very deep holes, it is necessary to utilize casing of great strength, such as N.80 and P.110; these grades have yield strengths of 80,000 pounds and 110,000 pounds respectively. The added strength results from heat-treating or, in some instances, from the use of nickel-alloyed steel.

By far the greatest consumption of casing is in grade J.55, which is estimated by users to account for approximately 90 p.c. of the total used. The remaining A number of sizes are usually made in each grade of casing, particularly in the case of J.55. As a general rule, Canadian requirements are for casing from  $4\frac{1}{2}$  inches OD to  $13\frac{3}{8}$  inches OD. The heaviest demand, however, is for  $5\frac{1}{2}$ -inch, 7-inch and  $10\frac{3}{4}$ -inch casing. The following have been suggested to the Board as being representative of casing and tubing requirements:

- (a) 3500 ft. well—12 tons of  $10\frac{3}{4}$  inch; 40 tons of 7 inch; 12 tons of tubing; total, 64 tons;
- (b) 4500 ft. well—12 tons of  $10\frac{3}{4}$  inch; 51 tons of 7 inch; 15 tons of tubing; total 78 tons.

By far the greater part of the tubing used in North America at present is seamless,—because, the users say, this type has the strength to resist "whipping" and other stresses.

Casing is manufactured by the electric-resistance welding process and by various seamless methods, as outlined previously. Both electric-weld and seamless casing fully qualify under the API requirements. In spite of this, there is a considerable difference of opinion between the users of casing and the manufacturers of welded casing with respect to the merits of seamless casing versus welded casing. The manufacturers of welded casing point to the fact that their casing meets all the API standards and has, they believe, a very good record in actual usage. At the public hearings before the Board, expert witnesses apparently were not in a position to submit concrete evidence to disprove these statements. In spite of this, the users appear to have an overwhelming preference for seamless casing and usually will use the welded only when they cannot obtain seamless. In support of this position, representatives of the Canadian Petroleum Association (C.P.A.)—which represents 97 p.c. of companies in Canada engaged in the exploration, drilling, production and supply of petroleum products—made the following statement at the public hearing:

"We certainly cannot subscribe to the suggestions made by Page-Hersey, Standard Tube and T.I. Ltd. or Atlas Steels Ltd., that welded and seamless line pipe or oil-country tubular goods are comparable for our purposes. In our view, and for our purposes, seamless tubing or casing is much superior to the others. Our experience has been that there is less trouble with seamless, either in bending, breaking or splitting . . . . The reason for taking exception to this statement (by the above-mentioned producers) is that an electric-welded tube or pipe is not completely homogeneous as (it is) in the seamless process of manufacture, hence the possibility occurs of having an imperfect or non-homogeneous metallurgic condition which is susceptible to failure . . . . Some of the problems are high internal and external pressures, tension, compression, torque and susceptibility to acid gases. If the electric-welded pipe is completely normalized and stress relieved through full heat treatment . . . the tensile collapse and burst requirements of the specifications can be met . . . . Our information indicates that there is only one manufacturer on this continent who has facilities to properly carry out this process."

The representatives of the C.P.A. stated that the API specifications do not require "normalizing" of welded tubular goods, except for the higher strength casing, such as N.80. Nevertheless, users apparently are reluctant to use welded casing unless it is so treated.

The C.P.A. also drew attention to a ruling of The Petroleum and Natural Gas Conservation Board of the Province of Alberta, stating the Board had not yet had sufficient experience to formulate a definite policy regarding the use of welded casing versus seamless casing.\* The ruling did say, however, that

<sup>\*</sup>For later communication from Conservation Board, see Appendix E.

"there have been numerous failures of electric-welded line pipe in oil and gas lines . . . . For this reason and until the electric-welded casing has been proven to be of equal strength to the seamless casing, the Board will not permit its use in deep wells or where it would be subjected to high pressures or exposed to a highly corrosive gas". Although there is no definite demarcation line between "deep" wells and other wells, the general consensus of opinion appears to be that any well which goes much beyond 5,000 or 6,000 feet could be considered a deep well. One responsible representative of the oil industry estimated that approximately half of all wells would be 5,000 feet or deeper.

#### Demand:

The consumption of oil-country goods in Canada has grown rapidly. Reliable statistics are available only for casing, but, since this product forms the greater part of total "down-hole" pipe, it gives a good indication as to trend. In 1950, domestic production of casing plus imports amounted to 34,683 tons; in 1954, it was 98,583 tons; in 1956, 8 months of imports plus 10 months of domestic production show a total of 113,772 tons. If tubing consumption, which is said to amount to 20 to 25 p.c. of the tonnage used, were added to the 1956 figures, these would be even more impressive.

It has been estimated by various oil-producing companies that their requirements of oil-country goods in 1957 will exceed 225,000 tons. This forecast is

based on drilling 3,000 wells, about one-twelfth more than in 1956.

# Cost of Casing and Tubing:

Oil producers estimate that from 15 to 20 p.c. of the total cost of drilling the average oil well consists of tubing and casing. On this basis the tubing and casing in an average well would cost about \$15,000. The C.P.A. pointed out at the public hearing that if the pipe-companies' request for a 22½ p.c. rate of duty were implemented, the cost of the average well would be increased by about \$3,375; this is an increase of roughly 4 p.c. in the cost of the average well.

# Sources of Supply:

In most years practically all oil-country goods used by the Canadian oil industry have been imported. In the case of drill pipe, there is no Canadian production. Although tubing and casing, both seamless and welded, have been produced in Canada, the tonnage is small in relation to imports. It is generally agreed by both users and domestic pipe-manufacturers that the latter can obtain business only during periods of short supply; in other words, when imports cannot be obtained in sufficient quantity to meet the oil producers' requirements. The following table would appear to bear this out, since, in both 1952 and 1956, casing was in short supply throughout the world and in these years Page-Hersey was called upon to supply considerably greater tonnages than in other years when supplies were more freely available. Even in these years, Page-Hersey supplied a relatively minor proportion of the total needs.

# Oil and Gas Well Casing (tons of 2,000 lbs.)

	Canadian Prod	uction	
Year	Seamless	Welded	Imports
1950 1952 1953 1954 1955	1,037 2,993 1,042 35 8,395 (10 mos.)	9,377 — — — — — — — 158 — 1,753	33,646 73,212 95,617 98,583 91,833 103,624 (8 mos.)

The reasons for this lack of business for Page-Hersey, (the sole Canadian producer until the present time) relate directly to price, sizes and types of casing. It was freely admitted by Page-Hersey at the public hearings that its prices are well above prices of imported casing. Secondly, Page-Hersey can produce seamless in sizes from  $4\frac{1}{2}$  to 7 inches OD, whereas the demand is for sizes up to and including  $13\frac{3}{4}$  inches. Lastly, while Page-Hersey can produce both welded and seamless casing, it charges a premium price for the latter type; this again increases the gap between this company's prices and those of imports, especially since the demand is for seamless casing. Page-Hersey contended, of course, that the policy hitherto prevailing of duty-free entry of oil-country goods had deprived that firm of any incentive to go more extensively than it had into the production of such tubing and casing.

The opening of the Mannesmann plant in 1957 will result in a wider range of casing being available in Canada in that this firm will produce seamless casing from  $4\frac{1}{2}$  inches OD to  $10\frac{3}{4}$  inches OD. Thus, with the exception of  $13\frac{3}{8}$  inche casing, which is used in relatively small quantities, all sizes are likely to be made in Canada. Mannesmann has announced that it will initially produce grades H.40 and J.55, which account for over 90 p.c. of usage; in June, 1957, it will produce N.80 and P.110; and finally, it hopes to produce in 1958 tubing and coupling pipe. These grades of casing will, according to the company, be produced in all sizes and weights within the range indicated above. Mannesmann's ultimate capacity of 225,000 tons of casing and line pipe and 75,000 tons of tubing is the equivalent of something fairly close to present Canadian casing requirements and in tubing is greater than today's requirements. This company also stated at the public hearings its intention to make drill pipe, possibly in 1958.

Subsequent to the public hearings in June, Mannesmann made certain revisions in the above-outlined production schedule; these were made in the light of progress to the end of November in constructing the firm's new mill at Sault Ste. Marie. The revised schedule submitted by Mannesmann is as follows: By April, 1957, it will be producing line pipe and J.55 casing in sizes  $5\frac{1}{2}$ , 7 and  $9\frac{1}{2}$  inches OD; other sizes of J.55 to  $10\frac{3}{4}$  inches OD will be available later in the year. Casing in grades H.40, N.80 and P.110 will be produced in the third quarter of 1957, as required. Before January 1, 1958, the mill will have the capacity to produce 150,000 tons of casing per annum; of this amount approximately 100,000 tons will be available by April, 1957, and an additional 50,000 tons in August. The company stated that its casing will be threaded and completely ready for use. Engineering preparations for a tube mill are under way and it is planned that construction will be started in mid-1957 for completion in mid-1958.

The fact that Mannesmann has stated that it will have the capacity to produce 150,000 tons of casing per annum does not mean that the company is necessarily committed to producing this quantity. It would be posible, for instance, to increase output of line pipe at the expense of casing production; furthermore, the fact that a duty of  $22\frac{1}{2}$  p.c. applies to line pipe under  $10\frac{1}{2}$  inches in diameter for the transmission of petroleum, whereas casing enters duty-free, could have an influence on the allocation of production. The decision rests, of course, entirely with Mannesmann.

When Mannesmann brings these various lines into production, there is almost sure to be much less dependence upon imports, a shift in trade that will gain impetus as Mannesmann rounds out its lines, for the reason that oil-country goods must often be purchased on a "package" basis. Many pipe and tube mills, for example, are willing to sell tubing only if the purchaser takes a considerably greater tonnage of casing of 7-inch or greater diameter. In a number of instances, the quota ratio of tubing to casing is 18 to 100, whereas in actual usage the

ratio is nearer 25 to 100. As this may not infrequently leave the buyer in the position of having to pay a premium for tubing, he is inclined to buy his requirements of casing from a producer who can also supply tubing. Mannesmann states that it will be in this position by June, 1958; Page-Hersey has supplied tubing from time to time, but, it is understood, at a higher price.

Sales of casing in sizes  $4\frac{1}{2}$ - and  $5\frac{1}{2}$ -inch diameters and of grades N.80 and P.110 are frequently tied also to sales of larger-sized casing. The C.P.A. expressed some concern that supplies of tubing and high-strength casing from abroad might be difficult to obtain if increased tariffs should force oil companies to purchase the "bread and butter" lines in Canada. There are indications, however, that some European producers will sell high-strength casing without other casing. Whether or not they charge a premium is not known. Once Canadian producers are in a position to supply adequate quantities of both tubing and casing, in all sizes generally used, Canadian users may not be nearly so dependent on "tied" or "basket" purchases from non-Canadian sources, provided, of course, that domestic prices are reasonably competitive.

#### OPERATION OF THREE DRAWBACK ITEMS RE PIPES AND TUBES

In Schedule B to the Customs Tariff are three Drawback Items affecting the duty payable on imports of pipes and tubes. These items are Nos. 1017, 1018 and 1018a, all of which are set out in detail in NOTES REGARDING EXISTING TARIFF ITEMS in PART IV hereof. For the purposes of this section, these three items may be summarized as follows:

Item 1017: Provides for a drawback of 50 p.c. of duties paid on imports of lapwelded tubing four inches or more in diameter, for use in casing water, oil or gas wells or for the transmission of natural gas under high pressure;

Item 1018: Provides for a drawback of 50 p.c. of duties paid on imports of seamless tubing more than four inches in diameter, for use in the transmission of natural gas under high pressure;

Item 1018a: Provides for a drawback of 50 p.c. of duties paid on imports of electric-welded pipe more than sixteen inches in diameter, for use in the transmission of natural gas under high pressure.

Each of the above drawbacks applies equally to couplings and parts thereof for the pipes or tubes and the prescribed uses of the same.

At the public sittings relative to Reference No. 119, interest in the continuance of item 1017 was expressed by the representative of the Canadian Petroleum Association, who felt that the item might be widened to include, as well, seamless and electric-welded, with diameter of as low as two inches. He contended that the item might then be of advantage to municipalities in the distribution, locally, of natural gas. It was recorded at the public sitting that no drawback had been paid under this item for some years.

It will be noted that each of the two remaining items (1018 and 1018a) applies solely to pipes or tubes—in the one case, seamless; in the other, electric-welded—used in gas pipelines. In other words, neither item can be resorted to by the builders or users of oil pipelines.

Allowing for the operation of these two drawback items (where drawback applies), it would appear that the *net* duty payable on imports thereunder would be as follows:

Size of Pipe or Tubing	Under B.P. Tariff	Under M.F.N. Tariff
Seamless, up to $4''$ : Seamless, $4''$ to $10\frac{1}{2}''$ : Seamless, over $10\frac{1}{2}''$ : Welded, up to $10\frac{1}{2}''$ : Welded, $10\frac{1}{2}''$ to $16''$ : Welded, over $16''$ :	15 p.e. 7½ p.e. 5 p.e. 15 p.e. 10 p.e. 5 p.e.	$\begin{array}{c} 22\frac{1}{2} \text{ p.c.} \\ 11\frac{1}{4} \text{ p.c.} \\ 7\frac{1}{2} \text{ p.c.} \\ 22\frac{1}{2} \text{ p.c.} \\ 15 \text{ p.c.} \\ 7\frac{1}{2} \text{ p.c.} \end{array}$
In short, the lowest duty applicable at On Seamless: On Welded:	t present is: 5 p.c. 5 p.c.	$7\frac{1}{2}$ p.c. $7\frac{1}{2}$ p.c.

It should be noted also that while item 1018 has been in effect for many years (see list of payments thereunder in notes under Part IV), item 1018a was added to Schedule B only in 1955. A list of drawbacks already paid (if any) under this item would, therefore, be of little value as a criterion of its importance, since potential recipients of drawbacks have a period of three years from importation in which to file claims with the authorities administering the drawback.

In drafting the Schedule embodied in Part IV of this Report, the Board has given consideration to the operation of these Drawback Items and to the views thereon, pro and con, that were put before it by the interested parties.

The Tariff Board necessarily has regarded this Report on Reference No. 119 (Pipes and Tubes) as being in a very real sense supplementary to its Report on Reference No. 118 (Basic Iron and Steel), for the reason that the schedule recommended in the latter embodies proposals regarding the tariff treatment to be accorded—if the Report on Reference No. 118 be adopted—to the chief raw materials of the pipe and tube industry, viz: such flat-rolled forms of iron or steel as strip and so-called skelp, whether hot-rolled or cold-rolled. In the past, these raw materials have been dutiable at rates of Free—5 p.c.—5 p.c., with special provisions—either by tariff items or drawback items—for the free entry of such materials in the event that the pipes or tubes to be made therefrom were themselves entitled to entry free of duty.

The Board's report on Reference No. 118 has recommended that the duties applicable generally to the flat-rolled steels for pipe-making be increased from Free—5 p.c.—5 p.c. to Free—10 p.c.—20 p.c. The schedule below deals, inter alia, with the remaining raw material of the pipe-maker—steel billets for the manufacture of seamless pipe—by recommending the discontinuance of drawback item No. 1028.

The schedule proposed below for insertion in Schedule A to the Customs Tariff departs radically in structure from that at present operative: (1) classification of pipes or tubes on the basis of diameter is discontinued; (2) classification on the basis of value per pound is no longer a feature of the tariff; (3) the number of tariff and drawback items is substantially reduced; (4) several enduse items relative to pipes or tubes are recommended for cancellation; (5) in general, the duties to be applicable to pipes and tubes are increased; and (6) moderate rates of duty are proposed on so-called "oil-country-goods", i.e.—casing and tubing for natural gas and oil wells.

Such increases in duty as the Board feels warranted in recommending reflect the growing importance of the pipe and tube industry in Canada and the significance of that industry in the national economy. The rates of duty proposed have been struck only after serious consideration of their impact, or possible impact, upon the users of pipes and tubes, more particularly the great extractive industries and the gas and oil pipe-line companies. The declining incidence of the protection afforded to the manufacturers of oil-country goods by (heretofore) highly favourable freight-differentials has been a factor that has had to be weighed by the Board in arriving at its proposals—and, indeed, in causing it to decide against reductions in duties which, but for this factor, might have appeared justifiable.

Having concluded its inquiry, and being desirous of presenting its proposals regarding Pipes and Tubes at or about the same date as that on which its Report on Basic Iron and Steel is transmitted,

The Tariff Board has the honour to submit to the Minister of Finance the following recommendations respecting the tariff treatment of Pipes or Tubes of Iron or Steel:

I. That Schedule A to the Customs Tariff, being Chapter 60, Revised Statutes of Canada, 1952, be amended by deleting therefrom the following tariff items, descriptions and rates of duty appertaining thereto: 396, 396a, 397(a), 397(b), 397(c), 397(d), 398, 398a, 398b, 398c, 398d, 398e, 399, 399a, 399b, 399c, 400, 410b, 410d, 410g, 410g, 488(1), 848(2), 848(3), 848(4), and by inserting the following items, descriptions and rates of duty in the said Schedule A:

	Goods Subject to Duty and Free Goods	British Prefer- ential Tariff	Most- Favoured- Nation Tariff	General Tariff
1	Pipes or tubes of cast iron, whether or not coated or lined	$7\frac{1}{2}$ p.c.	$12\frac{1}{2}$ p.c.	25 p.c.
2	Fittings and couplings of cast iron and parts therefor.	10 p.c.	20 p.c.	25 p.c.
3	(a) Pipes or tubes of iron or steel, n.o.p., with plain or processed ends, whether or not coated or lined; fittings and couplings therefor and parts of the			
	same(b) Pipes or tubes of iron or steel, seamless,	$12\frac{1}{2}$ p.c.	$22\frac{1}{2}$ p.c.	30 p.c.
	cold-drawn	Free	5 p.c.	10 p.c.
4	Pipes or tubes of iron or steel, with plain, swelled or thickened ends, when imported for use exclusively in the manufacture or repair of pressure parts of boilers, pulp mill digesters and yessels for the refining of			
	oil	Free	5 p.c.	20 p.c.
5	Pipes or tubes of iron or steel, with plain ends, when imported for use exclusively in the manufacture of rolls for paper-making machinery	5 p.c.	15 p.c.	30 p.c.
6	Tubes of iron or steel, seamless, when imported by manufacturers of bearings, for use exclusively in the manufacture of bearings in their own factories	Free	5 p.c.	15 p.c.
7	Fittings and couplings of iron or steel, not further manufactured than forged or bent to shape, whether or not deburred or descaled, when imported by manufacturers of welding fittings and couplings, for use exclusively in the manufacture of such fittings and couplings, in their own factories	Free	10 p.c.	25 p.c.
8	Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor			
	pipes or valves of iron or steel	Free	10 p.c.	$12\frac{1}{2}$ p.c.
9	Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water or in prospecting for			
	minerals, not to include motive power	Free	Free	Free

	Goods Subject to Duty and Free Goods	British Prefer- ential Tariff	Most- Favoured- Nation Tariff	General Tariff
10	Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for sintering or nodulizing iron ore, concentrated or not, or flue dust; machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus to include hot blast stoves and burners, blast piping and valves connecting the blowing engines with the furnace, scale cars, charging and hoisting apparatus, blast furnace gas piping, cleaners and washers; parts of the foregoing, not to include structural iron work nor pipes or valves of iron or steel	Free	5 p.c.	5 p.c.
11	Machinery and apparatus, n.o.p., and parts thereof, for the recovery of solid or liquid particles from flue or other waste gases at metallurgical or industrial plants, not to include motive power, tanks for gas, nor pipes or valves of iron or steel	5 p.c.	10 p.c.	12½ p.c.
12	(1) All machinery and apparatus and parts thereof (including motive power) and drilling mud, for use exclusively in exploratory or discovery work in connection with, and development, depletion and production of petroleum or natural gas wells	Free	Free	Free
	(2) Machinery and apparatus and parts thereof (including motive power) of a class or kind not made in Canada and drilling mud, for use in the exploration, discovery, development and operation of potash and rock salt mines or for use in the production of muriate of potash, or for use in the production of crushed and screened rock salt	Free	Free	Free
	(3) Pipes or tubes of iron or steel, commonly known as "oil-country goods", being casing or tubing and fittings or couplings therefor, for use in connection with natural gas or oil wells	5 p.c.	$7\frac{1}{2}$ p.c.	20 p.c.
	(4) Drill-pipe, for use in connection with natural gas or oil wells	Free	Free	Free
	(5) Materials for use in the manufacture of the goods enumerated in sub-items (1), (2), (3) or (4) of this item	Free	Free	Free

II. That Schedule B to the said Customs Tariff be amended by deleting therefrom the following drawback items, descriptions and amounts of customs duty subject to drawback thereunder: 1017, 1018, 1018a, 1028, and by inserting the following drawback item, description and amount of customs duty subject to drawback thereunder in the said Schedule B:

Item No.	Goods	When Subject to Drawback	Portion of Duty (not including Special Duty or Dumping Duty) Payable as Drawback
1018	Pipes or tubes of iron or steel:  (a) seamless, more than four inches in diameter;  (b) electric-welded, more than sixteen inches in diameter; and  (c) fittings and couplings for the foregoing, and parts of the same	When used in the transmission of natural gas under high pressure to points of distribution	50 p.e.

H. B. McKINNON, Chairman.

F. J. LEDUC, Vice-Chairman.

W. W. BUCHANAN,

Member.

# EXPLANATORY NOTES REGARDING TARIFF ITEMS AND DRAWBACK ITEMS

AS RECOMMENDED BY THE TARIFF BOARD

Reference No. 119

#### RECOMMENDED TARIFF ITEMS

#### RECOMMENDED ITEM No. 1: CAST IRON PIPES

1. Pipes or tubes of cast iron, whether or not coated or lined:

 $7\frac{1}{2}$  p.c.  $12\frac{1}{2}$  p.c. 25 p.c.

This proposed item will replace existing tariff items 396 and 396a, the notes on which please see. As those notes reveal, the major imports under existing item 396 consist of cast-iron pressure pipe, while cast-iron soil pipe enters chiefly under item 396a. In each case, the United Kingdom is the chief source of supply.

At the public hearings, many requested that there be established separate items for pressure-pipe and soil-pipe, on the ground that these were the products of entirely separate divisions of the industry and, further, that the values per ton differed substantially. Another reason for the proposed division of the item was to facilitate the compilation of data re imports.

After due consideration, the Board has decided that one undivided item, as above, should suffice. The proposed rate of  $7\frac{1}{2}$  p.c. under the B.P. Tariff is about the equivalent of the \$5.00 per ton leviable at present under item 396; as regards a rate of  $7\frac{1}{2}$  p.c. on soil-pipe, it is not regarded that this should prove a serious deterrent to imports which appear to have a value of about \$130-\$160 per ton.

Cast-steel pipe which, if imported in the past, would have been classifiable under either of existing items 396 or 396a (probably the latter) will not in future be admissible under the proposed item No. 1; most of it will fall under proposed item No. 3. The new item will, on the other hand, provide for not only coated but also for lined pipe (e.g.—asphalt lined).

#### RECOMMENDED ITEM No. 2: CAST IRON FITTINGS

2. Fittings and couplings of cast iron and parts therefor:

10 p.e. 20 p.e. 25 p.e.

Under the existing tariff schedule, couplings and fittings of all kinds, including those of cast iron, have been dutiable under tariff item 400 at 20 p.c.—22½ p.c.—30 p.c. The Board suggests that cast-iron fittings be given a separate classification, partly on the ground that, unlike other steel fittings, they are not the product, solely, of a major industry but very frequently are produced in relatively small foundries in various provinces. (See note on tariff item 400). The rates proposed represent a small reduction in duty under the M.F.N. Tariff and a substantial reduction under the B.P. Tariff, it having been contended by British producers at the public hearings that they simply could not ship couplings or fittings to Canada in the face of the existing duty of 20 p.c.

# RECOMMENDED ITEM No. 3: PIPES OR TUBES, N.O.P.

3.(a) Pipes or tubes of iron or steel, n.o.p., with plain or processed ends, whether or not coated or lined; fittings and couplings therefor and parts of the same:

 $12\frac{1}{2}$  p.c.  $22\frac{1}{2}$  p.c. 30 p.c.

Under the schedule now proposed, this will be the main (or "basket") item relative to pipes or tubes of iron or steel. It will cover, wholly or in part, such pipes and tubes as enter at present under some 15 or more existing items: Nos. 396a; 397(a), (b), (c) and (d); 398a, 398b, 398e; 399, 399a, 399b, 399c; 410b, 410g and 410z, the notes on each of which please see. It will cover also all fittings and couplings for such pipes or tubes (other than cast-iron fittings) which are dutiable at present under tariff item 400. As in the case of recommended item No. 1, coated or lined products are specifically provided for in the wording. By virtue of the "n.o.p." provision, the proposed item will include in its coverage all pipes or tubes, n.o.p., whether or not these are hot-rolled, cold-drawn or cold-reduced; and whether seamless, welded by any process, or not-joined. Since the proposed item provides for no distinction as to the diameter of the pipes to be admissible thereunder, it will not be subject to varying rates on the basis of that criterion, as is the situation at present under many tariff items which (in the event of the adoption of item No. 3) will disappear from the schedule.

Of the existing items which provide for duty on the basis of diameter, by far the most important are tariff items 397(a) and (b), the former of which covers pipes or tubes not more than  $10\frac{1}{2}$  inches in diameter; and the latter, those of larger diameters. More specifically, pipes of the seamless type are now made in Canada by Page-Hersey up to and including seven inches in diameter; pipes welded (by various processes) actually are manufactured at present up to 16 inches and in the near future will be produced up to 36 inches in diameter. Tubing is made in diameter ranges from a fraction of an inch to four or more inches, a very important producer, other than Page-Hersey, being Standard Tube at Woodstock. It appears to have been the policy of succeeding Governments in Canada to alter the diameter specified in the main item, 397(a), as Canadian production came into being—from two inches and smaller in 1897, to  $10\frac{1}{2}$  inches as at present. Despite production by Page-Hersey up to 16 inches, the tariff item has not been amended since 1930. Under the Board's proposals, item No. 3 will include all ranges and practically all kinds of pipes or tubes of iron or steel.

The pipe and tube industry in Canada is on the verge of a striking expansion—not only as regards ordinary seamless or welded pipes or tubes but also as regards those precise types or kinds known to the trade as "oil-country goods" (see proposed item 12(3)). These developments are more fully set out in the notes on existing tariff items and drawback items as well as in those portions of this Report headed Part II and Part III. In formulating its proposals regarding the rates of duty to be applied to its proposed item No. 3, the Board has taken cognizance of the changes now taking place in the industry in Canada, as well as of those in prospect in the immediate future; at the same time, it has tried to keep in mind not only the interests of non-Canadian producers but also those of certain segments of Canadian industry which are dependent to a very great extent on supplies of pipes and tubes.

Disregarding for the purposes of this note such special users as the petroleum industry and the gas-transmission companies—both of which are discussed in notes pertaining to certain end-use or drawback items—the tariff items which in the past have loomed largest in volume and value of imports have been: item 397(a), with rates of 15 p.c.—22½ p.c.—30 p.c. and 397(b), with rates of 10 p.c.—15 p.c.—20 p.c., (see Existing Item notes on each as to tonnages and values of imports). Equally, these have been the two tariff items of greatest value and significance for the Canadian producers of pipes and tubes. The rates of 15 p.c.—22½ p.c.—30 p.c. on item 397(a)—pipe not more than 101 inches in diameter—have been protective in their incidence to the extent that imports

thereunder have represented normally only about 15 p.c. of total Canadian These protective duties have in the past been linked with corresponding rates of Free-5 p.c.-5 p.c. on skelp, the raw material of the pipe industry. In its Report on Reference No. 118 (Basic Iron and Steel) the Board has recommended that the duties on skelp or strip imported for the manufacture of pipes or tubes should be increased to Free and 10 p.c. (B.P. and M.F.N.). It sees no sound reason, however, why the M.F.N. rate on the finished products should be increased beyond the 22½ p.c. applicable at present to pipes and tubes not more than 10½ inches in diameter. While the pipe-maker's "processing margin" of  $17\frac{1}{2}$  p.c. (the difference between  $22\frac{1}{2}$  p.c. on his finished product and 5 p.c. on his raw material) will be reduced under these proposals to one of 12½ p.c., it is to be borne in mind that, to the extent he is now producing pipe over 10½ inches (and may in the very near future be producing up to diameters of 30 or 36 inches) his protection (M.F.N.) is increased from 15 p.c. to  $22\frac{1}{2}$  p.c. In so far as concerns the B.P. Tariff, the proposed rate of  $12\frac{1}{2}$  p.c. is a reduction of  $2\frac{1}{2}$  p.c. from the B.P. rate on item 397(a) and an increase of  $2\frac{1}{2}$  p.c. above the B.P. rate on existing item 397(b).

Another feature of this proposed item is that it will embrace all fittings and couplings dutiable at present under tariff item 400 at rates of 20 p.c.—22½ p.c.—30 p.c. Information elicited at the public sittings has induced the Board to

propose the reduction of the B.P. rate from 20 p.c. to  $12\frac{1}{2}$  p.c.

As regards certain specific end-use items at present operative (in particular, items 398b, 398e, 399a, 399b, 399c; and in so far as relates to pipes or tubes thereunder, items 410b, 410d, 410g and 410z) the Board sees no justification for their continuance. Pipes or tubes at present classified under these items, or any one of them, will in future fall for the most part (and probably entirely) under the provisions of proposed item No. 3.

(b) Pipes or tubes of iron or steel, seamless, cold-drawn:

Free 5 p.c. 10 p.c.

Tariff item 398, as at present worded, covers cold-drawn seamless tubing, valued at not less than five cents per pound. Under this item is imported a very substantial tonnage of seamless cold-drawn tubing, much of which is manufactured into drill-pipe for hard-rock mining; some of this imported tubing may be used also in the manufacture of bushings, etc. There is very little domestic production of cold-drawn seamless tubing—although Page-Hersey has cold-drawing equipment and Standard Tube has machinery for cold-reducing. The evidence at the public sittings was largely to the effect that the Canadian tubing was "not good enough" for hard-rock drill-pipe and that, even if duties were to be increased, the makers of such mining pipe would continue to import their steel tubing, chiefly from the United States. The Board recommends continuance of the item altered in wording but unamended as to B.P. and M.F.N. rates.

#### RECOMMENDED ITEM No. 4: PRESSURE TUBES

4. Pipes or tubes of iron or steel, with plain, swelled or thickened ends, when imported for use exclusively in the manufacture or repair of pressure parts of boilers, pulp mill digesters and vessels for the refining of oil:

Free 5 p.c. 20 p.c.

This is a continuation in wording of an end-use item generally referred to as the "boiler-tube item", namely, existing item 399 (Free—Free—Free). For general information regarding the operation of the existing item see under Existing Item Notes. The Board sees no reason why the rates should not be revised to read: Free—5 p.c.—20 p.c.

# RECOMMENDED ITEM No. 5: TUBES FOR PAPER-ROLLS

5. Pipes or tubes of iron or steel, with plain ends, when imported for use exclusively in the manufacture of rolls for paper-making machinery:

5 p.c. 15 p.c. 30 p.c.

At present, tubes for use in making rolls for paper-making machinery enter under either or both of two items: 398a, at Free—15 p.c.—30 p.c., or 397(a), at 15 p.c.—22½ p.c.—30 p.c., depending upon diameter. The rates proposed for the B.P. and M.F.N. Tariffs are regarded as a reasonable adjustment to a single classification from the two at present operative.

# RECOMMENDED ITEM No. 6: TUBES FOR BEARINGS

6. Tubes of iron or steel, seamless, when imported by manufacturers of bearings, for use exclusively in the manufacture of bearings in their own factories:

Free 5 p.c. 15 p.c.

Existing tariff item 398c provides for entry, duty free, of seamless tubing valued at not less than five cents per pound, when imported for use in the manufacture of roller bearings. The item now proposed removes the reference to value per pound, is widened to cover the manufacture of any kind of bearing, and will, if adopted, impose a duty of 5 p.c. under the M.F.N. tariff.

#### RECOMMENDED ITEM No. 7: FITTINGS AND COUPLINGS

7. Fittings and couplings of iron or steel, not further manufactured than forged or bent to shape, whether or not deburred or descaled, when imported by manufacturers of welding fittings and couplings, for use exclusively in the manufacture of such fittings and couplings, in their own factories:

Free 10 p.c. 25 p.c.

This item, as did its predecessor (398d), covers materials for use in making couplings and fittings.

A number of minor revisions have been made in the wording, based on the recommendations of both pipe and fittings manufacturers. The B.P. and M.F.N. rates of duty are unchanged at Free and 10 p.c., respectively. The general rate has been reduced from 35 p.c. to 25 p.c.

#### RECOMMENDED ITEM No. 8: CERTAIN APPARATUS

8. Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes or valves of iron or steel:

Free 10 p.c.  $12\frac{1}{2}$  p.c.

Existing tariff item 410b provides for all the machinery and apparatus named in the above proposed item, but excludes from the benefits of the item pipes or valves of iron or steel 10½ inches or less in diameter. The proposed item excludes all pipes or valves, which probably will become classifiable under proposed item No. 3. The opinion of the Board is that this end-use item need not be continued in so far as concerns pipes or valves of iron or steel. (See note on 410b under Existing Item notes.)

#### RECOMMENDED ITEM No. 9: CERTAIN APPARATUS

9. Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water or in prospecting for minerals, not to include motive power:

Free Free Free

Existing item 410d (the note on which please see) provides entry, duty free, of certain goods, for the uses named in the above proposed item, and as well for certain other goods, including seamless tubing of a class or kind not made in Canada, for use in casing natural gas or oil wells. As will be seen from the note on recommended item No. 12 of this proposed schedule, all the "natural gas or oil well" requirements provided for at present under item 410d are now provided under the terms of proposed item No. 12; hence, item No. 9, above, is merely what remains of item 410d after the re-grouping of "oil-country" goods in new item No. 12.

#### RECOMMENDED ITEM No. 10: CERTAIN APPARATUS

10. Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for sintering or nodulizing iron ore, concentrated or not, or flue dust; machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus to include hot blast stoves and burners, blast piping and valves connecting the blowing engines with the furnace, scale cars, charging and hoisting apparatus, blast furnace gas piping, cleaners and washers; parts of the foregoing, not to include structural iron work nor pipes or valves of iron or steel:

Free 5 p.c. 5 p.c.

Under existing item 410g, all the above machinery and apparatus for the uses specified are provided (at rates of Free—5 p.c.—5 p.c.) except "wrought iron pipe or valves  $10\frac{1}{2}$  inches and under in diameter", these being specifically excluded from the item. Under the proposed item, the exclusion is widened to embrace pipes and valves of all diameters.

#### RECOMMENDED ITEM No. 11: CERTAIN APPARATUS

11. Machinery and apparatus, n.o.p., and parts thereof, for the recovery of solid or liquid particles from flue or other waste gases at metallurgical or industrial plants, not to include motive power, tanks for gas, nor pipes or valves of iron or steel:

5 p.c. 10 p.c.  $12\frac{1}{2}$  p.c.

Existing item 410z, in providing for certain machinery and apparatus for specified uses, excludes from such coverage pipes and valves  $10\frac{1}{2}$  inches or less in diameter. Under the proposed item above, *all* pipes or valves of iron or steel are excluded.

#### RECOMMENDED ITEM No. 12: OIL-COUNTRY GOODS

Existing tariff item 848 (in four sub-items) provides for free entry of much machinery and apparatus—including (by specific reference thereto) seamless, lap-welded and electric-welded iron or steel casing, tubing and drill-pipe—for use in connection with natural gas or oil wells. It provides, as well, for certain

machinery and apparatus—including certain casing and tubing—for use in connection with the extraction of rock salt and potash. Further, in its final subitem, item 848 provides for the free entry of "materials for use in the manufacture of the goods enumerated" in the other sub-divisions of the item. Any one wishing to understand the provisions of recommended item No. 12. which supersedes item 848 in its entirety, should read first the note on item 848 under Existing Item Notes of this Report.

Proposed item No. 12 may best be dealt with in terms of its five sub-items:

(1) All machinery and apparatus and parts thereof (including motive power) and drilling mud, for use exclusively in exploratory or discovery work in connection with, and development, depletion and production of petroleum or natural gas wells:

Free Free Free

This is a continuation, unchanged as to either wording or rates, of item 848(1) except as regards the pipes and tubes referred to therein.

(2) Machinery and apparatus and parts thereof (including motive power) of a class or kind not made in Canada and drilling mud, for use in the exploration, discovery, development and operation of potash and rock salt mines or for use in the production of muriate of potash, or for use in the production of crushed and screened rock salt:

Free Free Free

This is a continuation, unchanged as to either wording or rates, of item 848(2)—which did not fall within the terms of reference to the Board.

(3) Pipes or tubes of iron or steel, commonly known as "oil-country goods", being easing or tubing and fittings or couplings therefor, for use in connection with natural gas or oil wells:

5 p.c.  $7\frac{1}{2}$  p.c. 20 p.c.

This sub-item provides for the casing and tubing covered at present by the final clause of existing item 848(1)—which, it will be recalled, has been excluded from the terms of recommended item 12(1). All casing or tubing of iron or steel, welded or seamless and regardless of diameter, continue, under this revised sub-item, to be covered if for the purposes named, but the Board has recommended that such casing and tubing be in future dutiable at the rates above quoted.

Seamless tubing or casing can be and has been made by Page-Hersey up to seven inches in diameter. Shortly, much wider ranges of casing will be available from Mannesmann. Favourable freight differentials which, at present, serve to provide, in western oil fields, a substantial degree of protection for the Canadian producers of oil-country goods, have now been diluted by way of further agreed freight charges to be effective on and after December 27, 1956; these will apply to casing and tubing imported from overseas countries and laid-down at consuming points in the provinces of western Canada, as far east as Manitoba. In short, the Canadian producers who, up to the present, have been able to shelter under the umbrella of favourable freight differentials must now depend in large measure upon the customs tariff if they are to have any protection at all. For the purposes of this sub-item it is unnecessary to repeat here all the information regarding oil-well and gas-well casing and tubing that is set down in the note on item 848, in Existing Item Notes; in the section headed "Freight Rates" in Part II of this Report; and, again, in the section of Part III entitled "Oil-

Country Goods". In the light of all information secured, as summarized in the portions of this Report referred to immediately above, the Board feels justified in recommending the rates of duty now proposed.

(4) Drill-pipe, for use in connection with natural gas or oil wells:

Free Free Fre

Drill-pipe at present enters duty-free under existing item 848(1). Drill-pipe is not produced in Canada and continuance of such free entry is recommended.

(5) Materials for use in the manufacture of the goods enumerated in subitems (1), (2), (3) or (4) of this item:

Free Free Free

The Board recommends continuance of this (existing) provision of 848(4) despite the proposals regarding oil-country goods.

Note: Existing sub-item (3) of item 848 has been deleted from the schedule, no interest in it or in its continuance having been manifested, at the public sittings, by anyone. Its number (3) has, therefore, been allotted to the provision relative to oil-country goods.

#### RECOMMENDED DRAWBACK ITEM 1018

1018: Pipes or tubes of iron or steel:

- (a) seamless, more than four inches in diameter;
- (b) electric-welded, more than 16 inches in diameter; and

This item is intended to be a substitute for two existing drawback items, 1018 and 1018a. The operation of these existing items is described in the notes thereon in the Existing Item Notes section of this Report.

Briefly, item 1018 grants a drawback of 50 p.c. on seamless tubing more than four inches in diameter, and item 1018a grants a similar drawback on electric-welded pipe more than 16 inches in diameter: both when used in the transmission of natural gas under high pressure. Item 1018, however, uses the words "from the gas wells to points of distribution", whereas item 1018a says simply "transmission under high pressure to points of distribution".

There would appear to be no reason for continuing both items and the Board's proposed item, above, combines these, leaving out the phrase "from the gas wells". It recommends that the present drawback rate of 50 p.c. be retained.

### EXISTING DRAWBACK ITEMS DROPPED

1017: re Lap-welded tubing (see note in Existing Item Notes)

1028: re Billets for seamless pipe (see note in Existing Item Notes)

# EXPLANATORY NOTES REGARDING TARIFF ITEMS AND DRAWBACK ITEMS AS EXISTING AT DATE OF REPORT

Reference No. 119

#### **EXISTING TARIFF ITEM 355b: ALLOY TUBES**

355b: Metal alloy strip or tubing, containing not less than thirty per cent by weight of nickel and twelve per cent by weight of chromium, for use in Canadian manufactures

Free Free 20 p.c.

This item is a temporary item, created by Order in Council.

Production: Not available.
Imports: Not available.
Exports: Not available.
U.S.A. Duty: Various.

Bound Rates: There are no bound rates.

Both Atlas Steels and Oakton Products moved for deletion of steel tubing from this tariff item, the implication being that it would then be dutiable under tariff item 397(a) at an M.F.N. rate of 22½ p.c. Oakton Products requested this revision in order to obtain a margin between the raw material, strip, and the finished tubing. On the other hand, Atlas requested that the strip also be dutiable. Proposals regarding strip and tubing are dealt with under Reference No. 118.

International Nickel Company, which supplies Oakton Products with strip from its mill at Huntington, West Virginia, provided a history of the item and suggested that it should be left as it is until the situation with regard to com-

position and end use be clarified from a technical point of view.

#### EXISTING TARIFF ITEM 396: CAST IRON PRESSURE PIPE

396: Pipe, cast, of iron or steel, valued at not more than five cents per pound—

(s.c. 5181)
per ton \$5.00 \$12.00 \$14.00
GATT \$10.00

This item was established early in 1930. The wording remains unchanged but rates have been revised on several occasions. In 1930 the B.P. rate was increased from \$5.00 to \$7.00 per ton, the Intermediate from \$9.00 to \$12.00 per ton, and the General from \$10.00 to \$14.00 per ton. In 1937, the B.P. rate was reduced to \$5.00 per ton. The GATT reduction in the Intermediate or M.F.N. rate became effective in January, 1948.

Cast iron pressure pipe is sold domestically in the United Kingdom at not more than 5 cents per pound and most imports from that source would be entitled to entry under this item. The domestic price of cast iron pressure pipe in the United States is currently higher than 5 cents per pound and imports into Canada would not be admissible under this item. Cast iron soil pipe is, however, by reason of increased value, now classifiable mainly under tariff item 396a rather than under item 396. Cast steel pipe may enter under this item or tariff item 396a, depending on value.

Production: Domestic production of cast iron pressure pipe has apparently supplied about 80 p.c. of total Canadian consumption in recent years. Cast iron pressure pipe is used almost solely in municipal waterworks systems; the following table outlines production (cast iron water pipe) in recent years.

Year	Tons of 2,000 Pounds
1951	 101,650
1952	 71.630
1953	 91,580
1954	 103,550
1955	 119,225

Imports: Because of the fact that this item is set up on the basis of value it cannot be said definitely that import totals represent one type of pipe or another. In recent years, however, it would appear that the pipe entitled to entry under this item has been largely cast iron pressure pipe. Tonnage imported in 1953 was 23,121 tons; 1954, 31,365 tons; and 1955, 21,076 tons, almost all of which came from the United Kingdom. Imports apparently represent between 10 and 20 p.c. of total Canadian consumption.

Exports: Not available.

Ad valorem equivalents: 1954—B.P. 7 p.c.; M.F.N. 10.6 p.c.

U.S.A. Duty: 10 p.c. ad valorem.

Bound Rates: B.P. rate bound at \$5.00 (GATT note); M.F.N. rate bound at \$10.00 to France and Benelux (GATT—Geneva).

Cross-reference: Recommended Item 1.

This item covers mainly cast iron pressure pipe. Canada Iron Foundries Limited suggested a special tariff item dealing with cast iron pressure pipe only and carrying rates of 20, 22½ and 30 p.c., as now in effect for cast iron pressure pipe fittings (tariff item 400). In requesting this upward revision, the company pointed out that the United Kingdom's share of the Canadian market had grown from zero to 23 p.c. during the period 1946-54; it feared that imports would further increase with the opening of the St. Lawrence Seaway. Canada Iron Foundries felt that the success of the United Kingdom exporters in the Canadian market was based on lower labour and material costs, an advantage which, it said, it could not overcome by more efficient production methods, since manufacturing processes were the same in both countries. It further stated that while such increase in duty would serve to partially offset the disadvantage, the proposed rates would not increase the Canadian producers' share of the market but rather would serve to maintain it at the same level.

The other Canadian producer, Anthes-Imperial (Winnipeg), suggested rates of 15, 20 and  $27\frac{1}{2}$  p.c. It stated that such rates would give the company a greater share of the Western market and permit the acquisition of modern production equipment. This company's representative said that present operations are unprofitable. He went on to say that the competitive position of his company steadily decreases westward because of high freight charges; for example, the rail rate from Winnipeg to Vancouver is greater than the ocean rate from British ports to Vancouver.

Since pressure pipe is in large part used for municipal waterworks systems it was natural that objection to an increase in rate should come mainly from municipal corporations. Objections were registered by the Town of Acton, the City of Longueuil, the Public Utilities Commission of Galt, and the Public Utilities Commission of Woodstock. These sources stated that Canada Iron Foundries is the only domestic supplier in Central Canada and to increase the rates of duty would be to place this one firm in a position to monopolize the market.

British manufacturers of pressure pipes objected to the rates proposed and suggested instead that the same rates should remain in effect, or if possible, there should be a reduction. However, Stanton Ironworks Company Limited, contending that it was a natural supplier of the Canadian market, particularly in areas on either Coast, suggested a special pressure pipe item, with free entry of such pipes and fittings under the B.P. Tariff. Clay Cross (Iron and Foundries) Limited recommended a reduction but did not specify the amount of the reduction. Clay Cross sells only on the West Coast. Staveley Iron and Chemical Company Limited recommended only that there be no increases in the rate.

Noticeable throughout the evidence at the public hearings was the widespread interest in having fittings dutiable at the same rate as the pipes for which they were intended.

#### EXISTING TARIFF ITEM 396a: CAST IRON SOIL PIPE

396a: Pipe, cast, of iron or steel, n.o.p.—(s.c. 5182)

This item was established in its present wording in 1930. The B.P. rate was

reduced from 5 p.c. to Free in 1937.

This item covers mainly cast iron soil pipe which, because of increasing prices, is now valued at more than 5 cents per pound and therefore not admissible under tariff item 396. It is presumed that cast steel pipe would in large part also be covered by item 396a, although the trade in cast steel pipe would be negligible in proportion to the volume of soil pipe imported.

Production: By far the greater part of soil pipe consumed in Canada comes from domestic sources. Production has been of the following order in recent vears:

Year	Tons of 2,000 $Pounds$	S
1951	30,000	
	37,200	
	39,200	
	45,400	
	43,500	

Crane Limited, Montreal; Anthes-Imperial Company Limited, St. Catharines; Soil Pipe and Fittings Limited, Mimico; J. A. Wotherspoon, Oakville; and Associated Foundry Limited, Vancouver, account for approximately 80 p.c. of Canadian production, according to evidence submitted by the Canadian Institute of Plumbing and Heating.

Imports: Since tariff item 396a provides for all cast iron pipe valued at more than 5 cents per pound, it is conceivable that statistics of import totals might include shipments of pressure pipe or steel pipe, as well as of soil pipe. It would appear, however, that soil pipe is by far the largest item involved. Imports in recent years have been as follows: in 1953, 4,380 tons; in 1954, 3,410 tons; in 1955, 4.330 tons, with more than three-quarters of these totals coming from the United Kingdom.

Exports: Not available. U.S.A. Duty: 10 p.c.

Bound Rates: B.P. rate bound at Free (GATT note); M.F.N. rate bound at 7½ p.c. to Benelux (GATT—Geneva).

Cross-reference: Recommended Item 1.

Evidence at the public hearings in connection with this tariff item was concerned solely with cast iron soil pipe. The Canadian Institute of Plumbing and Heating, representing Canadian manufacturers accounting for 80 p.c. of Canadian soil pipe production, requested that tariff items 396 and 396a be combined into one item reading "Pipe, cast, of iron or steel, n.o.p." with rates of 15, 20 and 27½ p.c. The proposal was designed to correct the situation under which imports from the United Kingdom, at one time dutiable under item 396 at a rate of \$5.00 per ton, were now, by virtue of increased price, admissible under item 396a free of duty. The Institute stated that the factory costs of Canadian manufacturers were higher than the landed cost of soil pipe imported from the United Kingdom.

In objecting to the rates proposed, Allied Iron Foundries Limited, the only United Kingdom exporter of soil pipe to Canada in recent years, stated that such rates would reduce the margin of British preference and impose prohibitive duties. Almost all of Canadian soil pipe imports come from the United Kingdom. In 1953, imports from that source of soil pipe 6 inches and under in diameter constituted only 11 p.c. of combined Canadian production and imports from the United Kingdom. (Soil pipe over 6 inches in diameter comes mainly from Canadian sources.)

## **EXISTING TARIFF ITEM 397: PIPES AND TUBES**

Item 397 is the main item in the customs tariff under which pipes and tubes are classified. Its four sub-divisions describe pipes and tubes on the basis of size, method of production, etc. These sub-items are discussed below:

397: Pipes and tubes, of wrought iron or steel, plain or coated:—

(a) Welded or seamless, with plain or processed ends, not more than  $10\frac{1}{2}$  inches in diameter, n.o.p.—(s.c. 5188)

This item was created in 1930. The wording and rates are unchanged since that time except for the GATT reduction. Previous tariff history suggests that, as Canadian manufacturers increased their range of sizes, the item was changed to provide increased coverage. From 1897 to 1907, the counterpart item covered pipes and tubes 2 inches and smaller in diameter; from 1907 to 1914, 4 inches and smaller; from 1914 to 1930, 10 inches and smaller; and from 1930 to date,  $10\frac{1}{2}$  inches and smaller.

**Production:** Because of the numerous end-use items affecting pipes and tubes it is difficult to arrive at an accurate figure of Canadian production of the pipes and tubes classifiable under this tariff item. Since the Board does not have the basic data for such a compilation, no attempt is made to show production data as precisely applicable to this item only. Because of end-use concessions, drawbacks, and the difficulty of precisely matching production with a particular tariff item, the Board cannot cite specific tonnages as being relative to item 397(a) and no other. It estimates, however, that the tonnages would be several times those shown in the note re "Production" on item 397(b).

Imports: Imported pipes and tubes classified under this item and under item 397(c) amounted to 35,828 tons in 1953; 32,414 tons in 1954; and 34,882 tons in 1955. By far the greater part of these totals would be comprised of item 397(a) materials; 85 p.c. in 1955.

Exports: Not available.

*U.S.A. Duties:* Range from 7/20 of a cent per pound to 7/8 of a cent per pound on the smaller sizes;  $11\frac{1}{2}$  p.c. on the larger sizes.

Bound Rates: B.P. rate bound at 15 p.c. (GATT note); M.F.N. rate bound at 22½ p.c. to the United States (GATT—Geneva).

Cross-reference: Recommended Items 3 and 5.

Page-Hersey Tubes, Limited requested that the item be broadened to cover pipes and tubes 16 inches and under, a recommendation supported by Standard Tube and T.I. Limited and Canadian Western Pipe Mills Ltd. These producers are satisfied with the existing rates of duty (subject to the rate on raw materials remaining as at present). Raw material is said to account for about 65 p.c. of the cost of welded pipe. Should the raw material rate be increased, Page-Hersey

asked that the rate on the finished product be revised upwards to maintain the existing "spread" of 17½ p.c. (M.F.N.) between the rate on their raw materials and that on their finished product.

Among the objections to any broadening of the scope of item 397(a) were those registered by Dominion Natural Gas Company, Limited, serving gas to 55,000 families in Ontario, and Lakeland Natural Gas Limited, holding franchises for gas distribution systems in communities between Toronto and Montreal. These firms feared that higher duties would inevitably result in higher costs which would have to be passed along to the consumer. Canadian Coupling & Fittings Limited opposed any increase.

One United Kingdom manufacturer, Stewarts and Lloyds, Limited, claimed that the market for oil-country and line pipe is almost insatiable and as a consequence buyers have to secure their material where they can obtain it; any

increase in rates would simply penalize the Canadian user.

Alternative proposals were offered by several parties: The Canadian Petroleum Association suggested a reduction in the rate of duty. Because of increased requirements for drilling purposes, gathering systems, gas plants, injection schemes, etc., the petroleum industry would have to go outside Canada to obtain a large part of its pipe. As well, the Association stated that Canadian mills could not meet immediate demands and probably would not be able to meet future demand. Page-Hersey countered with the statement that it was able to offer better deliveries than any other pipe mill in the world.

The John Inglis Co. Limited recommended a reduction in rate from the prevailing 15,  $22\frac{1}{2}$  and 30 p.c. to 5, 10 and 20 p.c., indicating that the existing rates on pipe, which is a raw material for secondary industry, are too high and do not permit a reasonable spread between pipe and the finished products. In the production of heat exchangers, for example, pipe might represent as much as 60 p.c. of total material cost.

Boyles Bros. Drilling Company Ltd. stated that neither Canadian nor British steel tubular products were suitable for the manufacture of diamond core drills and as a consequence the company was forced to import its supplies of tubes for the manufacture of drills. Under the circumstances, the company requested free entry under B.P. and M.F.N. schedules, with two special tariff items to be established. The company pointed out that finished drills enter either at Free or 10 p.c. and that the rate on their raw materials is higher than that on their finished products.

The A. M. Byers Company of Pittsburgh recommended that special tariff items be created for genuine wrought iron pipes and tubes carrying lower rates of duty; the company stated that such pipe is not manufactured in Canada, is not competitive with steel pipe, and is used only for special installations. The company exported 996 tons to Canada in 1955 and hoped, with a reduction in rate, to be able to increase its sales.

Trans-Canada Pipe Lines Limited indicated that it had no objection to the proposed revision as long as a special tariff item or drawback item were provided for pipe used in natural gas transmission lines. Interprovincial Utilities Limited supported the brief of Trans-Canada Pipe Lines.

397: Pipes and tubes, of wrought iron or steel, plain or coated:-

(b) Welded or seamless, with plain or processed ends, more than 10½ inches in diameter, n.o.p.—(s.c. 5187)

> 10 p.c. 15 p.c. 20 p.c.

This item was established in its present wording in 1930, with rates identical with those currently in force.

Production: In 1934 Page-Hersey Tubes, Limited increased its range to include  $12\frac{3}{4}$  inch (outside diameter) pipe and in January, 1950, the company further increased its range to 16 inch. This company's production tonnages in 1953, 1954, 1955 were 12,300, 32,702 and 54,472 tons respectively.

Imports: Imports of pipe more than  $10\frac{1}{2}$  inches in diameter fluctuated widely in keeping with pipeline construction activity. Import totals in recent years have been as follows:

	1953	1954	1955
	<b>\$</b>	\$	\$
United Kingdom United States	940,272	737,428	211,719
	14,674,217	15 971 255	2,880,439
Other	1,088	87.832	1 263
Total	10,010,677	16,796,515	3,093,421

The greater part of these imports is mostly comprised of pipe over 16 inches in diameter.

Exports: Not available.

U.S.A. Duty:  $11\frac{1}{2}$  p.c. ad valorem.

Bound Rates: B.P. rate bound at 10 p.c. (GATT note); M.F.N. rate bound at 15 p.c. to U.S.A. (GATT—Geneva).

Cross-reference: Recommended Item 3.

Page-Hersey proposed that this item be revised to cover pipe of 16 inches and larger—(1) in sizes made in Canada, (2) in sizes not made in Canada. The company's proposal reads:

Pipes and tubes of wrought iron or steel plain or coated:-

- (b) Welded or seamless with plain or processed ends, more than 16 inches in diameter, n.o.p.
  - (1) when of a size larger than made in Canada 10 p.c. 15 p.c. 20 p.c.
  - (2) when of a size not larger than made in Canada 30 p.c.

GATT 15 p.c.  $27\frac{1}{2}$  p.c.  $22\frac{1}{2}$  p.c.

The company is now engaged in a joint undertaking to manufacture pipe up to 36 inches in diameter.

A wide variety of comment and counterproposal was offered at the public hearings by parties objecting to the Page-Hersey proposal. Canadian Petroleum Association, representing 97 p.c. of those in Canada engaged in the exploration, drilling, producing and supply phases of the petroleum industry as well as a high proportion of the companies engaged in transmission phases, opposed any upward increase, either through rewording or revision of rates. They suggested instead that there be a reduction in rates of duty since the industry's requirements of line pipe are very great. It was pointed out that Trans-Canada Pipe Lines Limited is building one of the longest lines in the world; that Westcoast Transmission is completing major lines; that Westspur Pipe Line is setting up in the Souris valley; Pembina and other oil fields are being developed, and each company has small lines of one type or another to be built. These users said that the Canadian pipe producer cannot even come close to meeting demand and the industry requested the right to purchase pipe requirements without penalty whenever and wherever it is available in the required quantities. Any increase

in the rates affecting line pipe, would increase cost and serve to restrict the geographical area in which Canadian crude oil or gas could be competitively marketed. Statements as to availability were countered by Page-Hersey, which stated that there was no shortage of pipe for above ground use (of the sizes the company produces).

The Interprovincial Pipe Line Company indicated that it did not feel the revision requested by Page-Hersey was justified; it felt that the applicant should prove the need for protection and that tariff rates should be established in the light of the facts.

Trans-Canada Pipe Lines Limited stated that duties and sales taxes payable on pipe requirements for the construction of the company's line from Alberta to Montreal would amount to more than \$20 million in the next three years. It said that pipe is the largest single cost element in construction, and capital costs are a major element in overall costs. It further asserted that any increase in pipe costs would directly affect consumer prices, or returns to gas producers, or both, and the company therefore objected to any increase in the amount of duties payable. Trans-Canada felt that the increase in rate proposed by Page-Hersey would not direct a greater tonnage to Page-Hersey since the latter was not in a position to handle more than half of Trans-Canada's requirements; therefore, the increase in rate would serve only to increase Trans-Canada's costs. Trans-Canada also objected to Page-Hersey's proposal that "made in Canada" be established on the basis of size, claiming that other factors were also of importance. Interprovincial Utilities Limited supported the brief of Trans-Canada.

The John Inglis Co. Limited recommended that rates on pipe of a diameter not made in Canada be reduced from 10, 15 and 20 p.c. to Free, Free, advancing the argument that there should be a spread between the rate on raw materials and the rate on products which the company manufactures.

Imperial Oil Limited, although not referring specifically to 397(a) or 397(b), recommended in general that rate revisions should apply only to products that are made in Canada in sufficient quantity and of satisfactory quality.

Two United Kingdom manufacturers objected to Page-Hersey's proposals. Stewarts and Lloyds opposed any change, indicating that of the four-to-seven million dollars export business it does annually with Canada, up to 20 p.c. would be of sizes from 10\(^3\) inches to 16 inches. South Durham Steel & Iron Co. Ltd. opposed any increase in the existing B.P. rate and any reduction in the amount payable as drawback under tariff item 1018a. During the period January, 1955 to June, 1956, the company had secured Canadian contracts for pipes (20 inches to 30 inches in diameter) amounting to approximately 300,000 tons and having a total value of about \$50 million. Both firms pointed out that there is at present a world shortage of line pipe and that the imposition of higher duties would penalize the Canadian user of pipe and the consumers of gas.

397: Pipes and tubes, of wrought iron or steel, plain or coated:—

(c) Not joined, with plain ends, not more than  $2\frac{1}{2}$  inches in diameter, n.o.p.—(s.c. 5185)

5 p.c. 10 p.c. 15 p.c.

This item was created in its present wording in 1930 with rates identical with those currently in force.

Production: Production data are available only in connection with the operations of Page-Hersey. This company's output in terms of value has been of the following order in recent years:

1951	· · · · · · · · · · · · · · · · · · ·	53 519
1952		21 491
1953		12.885
1954		13 535
1955		n.a.

Imports: Small in proportion to the total trade in pipes and tubes. In terms of value, imports amounted to \$46,221 in 1953; \$60,598 in 1954; \$95,042 in 1955, with over 90 p. c. coming from the United States.

Exports: Not available.

U.S.A. Duty: Ranging from 7/20 of a cent per pound to  $\frac{7}{8}$  of a cent per pound. Bound Rates: B.P. rate bound at 5 p.c. (GATT note); M.F.N. rate bound at 10 p.c. to Benelux (GATT—Geneva).

Cross-reference: Recommended Item 3.

Page-Hersey and Standard Tube, in requesting rates of duty identical with those under tariff item 397 (a)—15 p.c., 22\frac{1}{2} p.c., 30 p.c.—suggested that there is no logical reason why an unwelded or unjoined pipe should be accorded a lower rate of duty than a welded pipe.

No specific opposition was registered at the public hearings, although the Canadian Petroleum Association, as part of its general representations in connection with all pipe-items, indicated opposition to any increase, and suggested rather a reduction in rates.

397: Pipes and tubes, of wrought iron or steel, plain or coated:—

(d) N.o.p.—(s.c. 5191)  $12\frac{1}{2}$  p.c.  $27\frac{1}{2}$  p.c.

GATT 15 p.c.

This item was created in 1930. In 1937 the B.P. rate was reduced from 15 p.c. to  $12\frac{1}{2}$  p.c.

30 p.c.

Production: Not available.

Imports: Apparently comprise a pot-pourri of pipes and tubes, as evidenced by the following values which move in differing directions from year to year:

Year	\$
1950	 770,846
1951	 1,433,480
1052	 1,371,197
1052	 833,235
1954	 708,742
1055	 1,694,081
1955	 1,001,001

Exports: Not available.

U.S.A. Duty:  $11\frac{1}{2}$  p.c. on pipes and tubes n.s.p.

Bound Rates: B.P. bound at 12½ p.c. (GATT note); M.F.N. rate bound at 15 p.c. to the United States (GATT—Geneva).

# Cross-reference: Recommended Item 3.

Both Page-Hersey and Standard Tube argued that there is no justification for rates lower than under 397(a); they recommended an appropriate increase. Atlas Steels advocated cancellation and inclusion under 397(a).

Specific objections were not raised at the public hearings. The Canadian Petroleum Association included this item in its general objections to rate increases, however, and recommended that a reduction in rates might be provided. In discussion concerning the nature of the pipe admissible under this item, it was brought out that at present the item covers imports of culvert pipe, pipe wrapped with asbestos or other wrapping, and specially constructed pipe, such as pipe lined with cement.

#### EXISTING TARIFF ITEM 398: SEAMLESS PIPES AND TUBES

398: Pipes and tubes, of steel, seamless, cold drawn, plain ends, valued at not less than five cents per pound, n.o.p.—(s.c. 5186)

Free 5 p.c. 5 p.c.

This tariff item was established in 1930 with wording and rates that have remained unchanged since that time.

Production: Production of cold-drawn seamless pipe—classifiable under items 398, 398a, 398b, 398c, 398d and 398e—has been as follows in recent years:

Year	Tons of	2000 Pounds
1951	 	2,458
1952	 	2,374
1953	 	802
1954	 	146
1955	 	153

Imports: Available statistics do not show the tonnage or value of imports under this item per se. Total imports of cold-drawn seamless pipe are as follows:

Year	Tons of 2000 Pounds
1951	10,463
1952	
1953	
1954	/
1955	10,315

Exports: Not available.

*U.S.A. Duties:* Ranging from 7/20 of a cent per pound to  $\frac{7}{8}$  of a cent per pound in smaller sizes;  $11\frac{1}{2}$  p.c. on pipes n.s.p.

Bound Rates: B.P. rate bound at Free (GATT note); M.F.N. rate bound at 5 p.c. to the United States (GATT—Geneva).

Cross-reference: Recommended Item 3(b).

Page-Hersey, Standard Tube and T.I. Limited, and Atlas Steels Limited advocated cancellation or rewording to provide rates of duty equal to those under 397(a). Page-Hersey indicated that the M.F.N. rate of 5 p.c. on finished pipe is less than the effective rate that company pays in importing billets to

make the pipe. Any business it had booked under item 398 has been sold at cost plus a reasonable profit, with no attempt to meet the pricing of import competition, which enters duty free (B.P.) or at 5 p.c. (M.F.N.). It would be necessary to sell at a loss, Page-Hersey indicated, to meet import prices. Standard Tube stated that hot-drawn seamless tubes entered under 397(a) and the company could see very little reason why one additional operation (cold drawing) should mean a drop in the M.F.N. rate from  $22\frac{1}{2}$  p.c. (397(a)) to 5 p.c. (398).

Atlas Steels, producing only welded stainless tubing, said it faced the import of seamless tubing in detriment to the purchase of its product. It claimed that welded and seamless are comparable as far as quality is concerned; that seamless and welded pipe sell abroad at very comparable prices; and, since the two types of pipe are competitive, the effective rate of protection for Atlas is really only 5 p.c. under item 398. Page-Hersey also indicated that in some cases it was cheaper to purchase cold-drawn seamless tube in the United States and pay the 5 p.c. duty on it (item 398) than to buy the hot-finished tube and pay  $22\frac{1}{2}$  p.c. (item 397(a)).

The Canadian Diamond Drilling Association, in objecting to the proposals of the applicants, recommended that all pipes and tubes as used by the Canadian diamond-drilling industry be admitted under item 398 as it now stands. The Association represents contractors, mining companies, and individuals engaged in diamond core drilling in Canada. Members of the Association had, in the past, used tubing produced in Canada but with very unsatisfactory results, Canadian tubes being hard to machine and tolerances not maintained. It estimated that in excess of 1,000,000 feet had been imported in 1955. In addition to objecting to a change in rates, the Association recommended broadening of the item to include welded pipe and pipe with processed ends, for diamond drilling.

Strong objection to any increase was also registered by Boyles Bros. Drilling Co. Ltd. and Midwest Mining Supplies Limited. The former stated it is one of the largest manufacturers of diamond core drills and equipment in the world, with about 30 p.c. of its business in export markets. This company indicated that in a diamond drill hole of 1% inches in diameter, the dimensional tolerances of the various tubes fitting inside one another must be held to a close limit. Dimensional tolerances of Canadian and British tubular products were not suitable, it contended. Midwest Mining also claimed that the Canadian producer does not manufacture all of the sizes required, and recommended no change until such time as Canadian manufacturers are in a position to produce a product equal in every respect to that produced by United States manufacturers. Boyles Bros. went a step further and suggested a special tariff item with rates of Free, Free and 5 p.c. (i.e., reduction in the present M.F.N. rate under item 398).

Page-Hersey reviewed the past history of its sales for diamond-drilling purposes and indicated that it is now in a better position to supply the tubing required; it had acquired new equipment for correcting eccentricity. This company did not believe there is any necessity for a separate tariff item to deal with tubing for drilling purposes.

The upward revision requested by the applicants was strongly opposed by Canadian Oil Company, Limited. The company asked that rates remain unchanged and that wording be broadened to include bevelled-end pipe (i.e., pipes with processed ends). Tube Investments Ltd., of the United Kingdom, stated that the suggested upward increase in rate would cut off United Kingdom exports and would tend to increase costs to Canadian users.

#### **EXISTING TARIFF ITEM 398a**

398a: Pipes and tubes of iron or steel, seamless, cold drawn, plain ends, polished, valued at not less than five cents per pound; steel tubes, welded or seamless, more than 10½ inches in diameter, with plain ends, when imported for use exclusively in the manufacture or repair of rolls for paper-making machinery—(s.c. 5193)

Free 15 p.c. 30 p.c.

This tariff item was last revised in 1937 when rolls for paper-making machinery were included, and the M.F.N. rate was reduced from 20 p.c. to 15 p.c.

Production: See item 398.

Imports: Imports, in dollars, in recent years have been as follows:

Year	\$
1951	111,963
1952	45,521
1953	35,812
1954	
1955	50,770

In the first four years the United Kingdom accounted for about 75 p.c., the remainder coming from the United States; in 1955, the positions were reversed.

Exports: Not available.

Bound Rates: B.P. rate bound at Free (GATT note);

M.F.N. rate bound at 15 p.c. (GATT—Geneva).

Cross-reference: Recommended Items 3 and 5.

Page-Hersey requested that pipes classifiable under this item be subject to rates as under item 397(a).

The John Inglis Co. Limited, in objecting to such increase in respect of tubes for use in the manufacture or repair of rolls for paper-making machinery, advocated a spread between raw materials and finished product along the lines of the argument which had been used by Page-Hersey in presenting its own case re skelp (i.e., raw materials should enter at a lower rate of duty than the finished product). If Inglis' recommendations as to item 397(a) and (b) were accepted, the company said, it would take no objection to the cancellation of item 398a. Otherwise, the company urged that the second portion of item 398a be retained, adding that it would have no objection to the dimensional limitation being increased to 16 inches.

Tube Investments of the United Kingdom indicated that the Page-Hersey request for upward revision would have the effect of reducing the B.P. margin, a matter of vital concern to the United Kingdom company. Seamless stainless tubing was not manufactured in any sizeable quantities in Canada and increased rates of duty would raise the price of an already costly commodity.

#### EXISTING TARIFF ITEM 398b

398b: Tubing of iron or steel, not joined, not more than  $\frac{5}{16}$  inch in diameter, with one end swaged, or swaged, split and spread, but not further manufactured, when imported for use in the manufacture of fishing rods—(s.c. 5194)

Free  $7\frac{1}{2}$  p.c. 15 p.c.

This tariff item was created in its present wording in 1937 with rates identical with those currently in force.

Production: Not available.

Imports: Value of imports in 1953, \$1,532; in 1954, \$4,824; and in 1955, \$817.

Exports: Not available.

Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

No objections were made to the request by Page-Hersey that this tubing be made subject to rates under item 397(a). Trade under this item is negligible and no secondary manufacturer expressed interest in its continuance.

### **EXISTING TARIFF ITEM 398c**

398c: Seamless steel tubing, valued at not less than five cents per pound, when imported by manufacturers of roller bearings for use exclusively in the manufacture of such bearings in their own factories—(s.c. 5186)

Free Free 30 p.c.

This tariff item was established by Order in Council in 1949, continued by a series of subsequent Orders, and written into the tariff in 1952. Wording and rate have remained unchanged.

Production: See item 398.

*Imports:* Dollar value in recent years has been as follows: 1955, \$616,475; 1954, \$595,776; and 1953, \$422,186.

Exports: Not available.

U.S.A. Duties: Various.

Bound Rates: M.F.N. rate bound at Free to the United States (GATT-Torquay).

Cross-reference: Recommended Item 6.

Different recommendations were advanced by Page-Hersey, Atlas Steels and Standard Tube. Page-Hersey requested rates as under item 397(a), with deletion of the reference to value. Atlas Steels suggested that, if the item is retained, it should provide for higher rates on types made in Canada. Standard Tube stated that there were many problems in supplying a large range of sizes, some in very small quantities, and proposed that the item be divided into "made in Canada" and "not made in Canada" classifications, thus allowing the bearing manufacturers to buy foreign tubing without penalty when the type could not be produced in Canada. The company now had the equipment, it said, to perform the final operations in making the tubing (cold reduction). When pressed to specify the criteria to be used in administering an item such as it proposed, the company was unable to be specific.

Strenuous objection to any change was offered by the bearing manufacturers. The Automotive Parts Manufacturers Association (representing Canadian SKF Company Limited, Fischer Bearings (Canada) Limited, McKinnon Industries Limited, and Timken Roller Bearing Company) recommended that there be no change in rate, but did suggest rewording to provide statutory coverage of the treatment the companies are enjoying in respect of tubing for ball bearings and to remove value demarcation. A total of 6,777 tons of tubing was imported by the users in 1955; in this, there were four different specifications of steel and

more than 200 different sizes. The Association said that had the  $22\frac{1}{2}$  p.c. rate suggested by Page-Hersey been in effect in 1955, there would have been an additional cost of \$606,297 to the users. Canadian SKF indicated that one-third of a bearing's cost is represented by material (mostly tubing) and that a duty of  $22\frac{1}{2}$  p.c. on tubing which must be imported would make the price of its finished product noncompetitive with imports. The rates on finished bearings range from Free to  $17\frac{1}{2}$  p.c. SKF claimed that the required tubing is not available from any Canadian source; therefore item 398c should remain without modification as to rate.

Standard Tube indicated that any failure on its part to provide the kind of steel required was the result of misunderstanding and that it was now equipped to make a satisfactory product. Page-Hersey stated that it had not attempted to book orders for this type of tubing and, therefore, said it preferred to leave the tariff item in abeyance until dimensional requirements and tolerances could be discussed with roller bearing manufacturers.

#### EXISTING TARIFF ITEM 398d: PIPE FOR BUTT-WELDING FITTINGS

398d: Pipe, of steel, seamless, not further manufactured than cut to length and formed or bent to shape, deburred or not; pipe caps, of steel, not further manufactured than formed or bent to shape, deburred or not; for use in the manufacture of butt-welding fittings—(s.c. 5197)

Free 10 p.c. 35 p.c

This item was established by Order in Council in 1949 and has been continued by a series of Orders the latest being P.C. 1956-7 of January 5, 1956.

Production: See item 398.

Imports: Import tonnage is not available. Value in 1953 was \$422,186; in 1954, \$594,776; in 1955, \$616,475.

Exports: Not available.

U.S.A. Duty: Various.

Bound Rates: Not bound.

Cross-reference: Recommended Item 7.

Page-Hersey Tubes, Limited requested that pipe in its natural state—as coming from a pipe mill—should not be included in this item but should be classified under item 397(a). Manufacturers of fittings did not appear to object to exclusion from this item of pipe in straight lengths, but stressed the desirability of an amended wording that would include bent pipe.

#### **EXISTING TARIFF ITEM 398e: HOLLOWS**

398e: Hot rolled steel hollows for use in the manufacture of cold reduced seamless steel tubes—(s.c. 5188)

Free

Free

30 p.c.

This item was established by Order in Council in January 1955.

Production: See item 398.

Imports: Import totals are not separately available.

Exports: Not available.

U.S.A. Duty: Ranges from 7/20 of a cent per pound to 7/8 of a cent per pound on smaller diameters;  $11\frac{1}{2}$  p.c. on pipe n.s.p.

Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

This temporary item was established for Standard Tube and T.I. Limited when that company was installing machines for the production of cold-reduced seamless steel tubing. The company now plans to develop Canadian sources for its raw materials and considers some protection would be in order for its Canadian suppliers; it suggested Free (M.F.N.) on materials not made, and, 5 p.c. (M.F.N.) on materials made.

Page-Hersey preferred deletion of the item, the applicable rates then being those of 397(a) (22½ p.c. M.F.N.). This company stated it cannot make hollows competitively under free importation and the rate suggested by Standard Tube completely sets aside any possibility of Page-Hersey's hot-rolled seamless mill being able to provide Standard Tube with hot-rolled seamless tubing (so-called hollows) for cold reducing to smaller sizes and thinner walls. It also pointed out that Standard Tube's cold-reduced products compete with Page-Hersey cold-drawn products and that the rates suggested by Standard Tube would give that company a competitive advantage.

### **EXISTING TARIFF ITEM 399: PRESSURE PIPE**

399: Pipes, tubes and flues, of wrought iron or steel, with plain, swelled or thickened ends, when imported for use exclusively in the manufacture or repair of pressure parts of boilers, pulp mill digesters and vessels for the refining of oil, under regulations prescribed by the Minister—(s.c. 5183)

Free Free Free

This tariff item was created in its present wording and with identical rates in 1930.

Production: Has been small in relation to total consumption. In 1953, Canadian production amounted to 580 tons; in 1954, 764 tons and in 1955, 1,850 tons.

*Imports:* In 1953, imports totalled \$3,088,667; in 1954, \$2,678,800 and in 1955, \$3,048,355.

Exports: Not available.

*U.S.A. Duties:* 7/20 of a cent per pound to 7/8 of a cent per pound on smaller diameters;  $11\frac{1}{2}$  p.c. n.s.p.

Bound Rates: Not bound.

Cross-reference: Recommended Item 4.

Page-Hersey Tubes, Limited stated that its seamless pipe mill was installed in 1932 but was not utilized to any appreciable extent until the war years, when it supplied the bulk of Canadian needs. Following the war, imported seamless pipe was again available at prices with which Page-Hersey could not compete. With the outbreak of hostilities in Korea, however, the seamless mill once again was called upon for large scale production. This demand, however, has subsided and once again output is on a limited scale. Page-Hersey requested that a tariff increase be recommended, in order to permit it to maintain a reasonable level of operation in its seamless mill. It therefore requested that item 399 be deleted; or, alternatively, that it be retained with rates equivalent to those applying to item 397(a). Atlas Steels, Limited and Standard Tube and T.I. Limited supported this proposal. Standard Tube indicated that it was able to manufacture boiler tubes in a range of sizes sufficient to take care of a large portion of Canadian requirements but because of the prevailing free entry it enjoyed only a very small part of the total Canadian business.

Canadian Oil Companies, Limited strongly opposed any change which would have the effect of increasing the duty on the products they imported under this tariff item and recommended continuing free entry and an extension of the item to cover alloy steel tubes. The Canadian Petroleum Association subscribed to the brief of Canadian Oil Companies, Limited but in addition asked that wording be revised to include tubes for the vessels used in the processing of natural gas. The British American Oil Company Limited, during 1955, imported steel pipes and tubes valued at \$245,470.36, consisting entirely of seamless pipes and tubes not made in Canada and admissible free of duty under tariff item 399 or 848(1). These users asserted that the rates of duty proposed would not result in any advantage to Canadian producers of welded pipe; they therefore recommended continued free entry. A similar argument was advanced by Imperial Oil Limited with particular reference to duty-free entry for alloy steel pipe.

The John Inglis Co. Limited quoted prices from a Toronto distributor, showing that the laid-down cost of welded tubes was lowest from the United Kingdom, followed in order by Canadian and United States material; on seamless the pricing levels were, the United Kingdom lowest, then the United States and Canadian pipe. Since the company believed that the Canadian pipe and tube industry is entitled to a proper measure of tariff protection, it suggested rates of duty of 5, 10 and 20 p.c., which should provide adequate protection on the basis of the aforementioned price levels; while the B.P. rate would not fully cover the difference in laid-down cost, it had not always been tariff policy to provide full protection against imports from Commonwealth nations. In addition, the company requested that the tariff item be reworded to exclude bent tubes since several of the Canadian boiler manufacturers have tube bending machines. As well, there should be deletion of "repair", as boilers are repaired in the field and the competitive position is different from that in the production of new boilers. This company said that, if its proposals regarding 397(a) and (b), were accepted it would not object to the cancellation of 399.

Stewarts and Lloyds, Limited of the United Kingdom indicated that the Canadian market is one of the company's largest single export markets for boiler tubes, and it was opposed to any increase in rates of duty which would tend to limit its ability to participate in the Canadian market. The B.P. rate of 15 p.c. suggested by the applicants would be a severe handicap, and might be prohibitive. Tube Investments also stressed the prohibitive nature of an increase in the B.P. rate from Free to 15 p.c. Some of the company's products entering under this item were not produced in Canada in commercial quantities.

The Babcock & Wilcox Company of Pittsburgh suggested that separate treatment should be given to seamless tubes and welded tubes. Seamless carbon and seamless alloy grades cannot be economically produced in Canada, and by implication the company suggested that these could more easily be given preferential treatment if separated from welded tubes. Standard Tube countered with the statement that it could produce both welded and seamless tubes and could see no reason for differentiation between seamless and welded. Page-Hersey and Stewarts and Lloyds also stated that there was no reason for differentiation.

### EXISTING TARIFF ITEM 399a: PIPES FOR BEDS

399a: Pipes and tubes, of wrought iron or steel, brass covered, not more than 3 inches in diameter, and brass trimmings, not polished, lacquered or otherwise manufactured, when imported by manufacturers of iron or brass bedsteads for use exclusively in the manufacture of iron or brass bedsteads, in their own factories, under regulations prescribed by the Minister—(s.c. 5184)

Free Free Free

This item was created in its present wording and with identical rates in 1930.

Production: Not available.

Imports: Nil in recent years.

Exports: Not available.

*U.S.A. Duties:* 7/20 of a cent per pound to  $\frac{7}{8}$  of a cent per pound on products of smaller diameter;  $11\frac{1}{2}$  p.c. n.s.p.

Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

No objection was made by anyone to the request by Page-Hersey Tubes, Limited that this item be deleted.

### EXISTING TARIFF ITEM 399b: TUBING, COATED FOR FURTHER PROCESSING

399b: Tubing, of wrought iron or steel, not more than one-half inch in diameter, in lengths not less than six feet, coated with metal, other than zinc, not polished, bent nor further manufactured, when imported by manufacturers to be further processed, in their own factories—(s.c. 5190)

7½ p.c.

This item was established in its present wording and with identical rates, in 1930.

Production: Nil.

Imports: Small in relation to the overall trade in pipes and tubes. Value in recent years has been as follows:

Year	\$
1953	 173,209
1954	 151,067
1955	 247,288

Exports: Not available.

U.S.A. Duties: 7/20 of a cent per pound to 7 of a cent per pound on smaller diameters; 11½ p.c. n.s.p.

Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

No objection was made to the proposal by Page-Hersey Tubes, Limited that this item be deleted. No interest in the item was expressed by anyone.

### EXISTING TARIFF ITEM 399c: PIPES OF PUDDLED IRON

399c: Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in recovering crude petroleum—(s.c. 5195)

Free

Free

Free

This item was created in its present wording with identical rates, in 1930.

Production: Not available.

Imports: Not available.

Exports: Not available.

U.S.A. Duties: Various.

Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

No objection was offered to the request made by Page-Hersey Tubes, Limited for deletion. The item apparently is obsolete.

### **EXISTING TARIFF ITEM 400: FITTINGS**

400: Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof—(s.c. 5192 and 5196)

GATT 20 p.c.  $27\frac{1}{2} \text{ p.c.}$  30 p.c.  $22\frac{1}{2} \text{ p.c.}$ 

This item was created in 1930, with a revision in 1936 to include the word "fittings" and the phrase "complete parts thereof". Rates are the same except for the GATT reduction which became effective in January, 1948.

Production: Canadian producers have supplied the greater part of Canadian consumption. Production has been as follows:

Year	Tons of 2,000 P	ounds
1951	51,450	
	40,970	
	43,420	
1954	43,050	
1955	53,569	

Imports: Tonnage data are not available in respect of imports during recent years. Values have been as follows:

Year	\$
1951	 4,862,059
1952	 6,866,148
1953	 6,448,469
1954	 5,917,650
1955	 6,482,187

While imports are represented by sizable dollar values, it would appear that in terms of tonnage they would not represent more than 15 p.c. of total Canadian consumption.

Exports: Exports have been negligible in relation to total Canadian production. The value of fittings exported in 1953 was \$326,272; in 1954, \$237,550; and in 1955, \$268,714.

U.S.A. Duties: Cast iron fittings, 10 p.c.; malleable fittings for cast iron pipe,  $22\frac{1}{2}$  p.c.; other, 21 p.c.

Bound Rates: B.P. rate bound at 20 p.c. (GATT note); M.F.N. rate bound at  $22\frac{1}{2}$  p.c. to the United States (GATT—Geneva).

Cross-reference: Recommended Items 2 and 3.

Canadian Coupling & Fittings, Limited, Ladish Co. of Canada Ltd., Page-Hersey Tubes, Limited, and Tube Turns of Canada Limited requested retention of the item as it now stands. Taylor Forge withdrew the representations it had made during the public hearings and subsequently submitted a request that item 400 be rewritten as follows:

(a) finished products, dutiable at 22½ p.c. (B.P. and M.F.N.)

(b) semi-finished products, within the range the company manufactures in Canada, dutiable at 22½ p.c. (B.P. and M.F.N.)

(c) semi-finished products, beyond the range the company manufactures in Canada, dutiable at 10 p.c. (B.P. and M.F.N.).

United Kingdom producers took exception to the reduction in the margin of British Preference.

Objection to the proposals of the producers was advanced by the Canadian Petroleum Assocation which indicated that couplings and fittings should be included with their respective pipe items, as these represented something like 5 p.c. of the total cost of oil-country pipe; in connection with "down-hole" tubular products, price quotations always included the cost of the coupling.

### EXISTING TARIFF ITEM 410b

410b: Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in dameter—

Free 10 p.c.  $12\frac{1}{2}$  p.c.

This item was established in its present wording in 1930. The B.P. rate was reduced from  $7\frac{1}{2}$  p.c. to Free in 1937.

Production: Not available.
Imports: Not available.
Exports: Not available.

U.S.A. Duty: Not available.

Bound Rates: B.P. rate bound at Free (GATT note); M.F.N. rate bound at 10 p.c. to the United States (GATT—Geneva).

Cross-reference: Recommended Item 8.

Page-Hersey requested that this item be so reworded that pipe of a size made in Canada would automatically be excluded.

Stelco, as a user of pipes in coal-cleaning operations etc., while not opposed to the suggestion, pointed out that Page-Hersey had argued there should be no more than a 5 p.c. duty on Page-Hersey's raw materials (skelp and billets); the present rate under this tariff item is 10 p.c. on the materials used by Stelco.

General objection was registered by the Canadian Petroleum Association, with comments as applicable under item 397. In recommending that the diameter remain at  $10\frac{1}{2}$  inches, the Association did not agree to a "made in Canada" expression based on diameter.

### EXISTING TARIFF ITEM 410d

410d: Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells; well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil wells—

Free Free Free

Production: Not available.

Imports: Not available.

Exports: Not available.

U.S.A. Dutu: Not available.

Bound Rates: B.P. rate bound at Free (GATT note); M.F.N. rate bound at

Free to the United States (GATT—Geneva).

Cross-reference: Recommended Items 9 and 12.

The parties presenting evidence at the public hearings were agreed that tariff item 848(1) had replaced 410d in so far as pipes, tubes and casing for use with oil and gas wells are concerned. In connection with such products used for water wells, Page-Hersey Tubes, Limited produces most of the sizes used and they are therefore not admissible under item 410d. As a consequence, it seemed generally agreed that item 410d is largely inoperative. The only specific objection was that recorded by Canadian Oil Companies, Limited, which opposed any change that would increase the present rates of duty. The company claims to be a user of pipe that enters under this tariff item.

### EXISTING TARIFF ITEM 410g

410g: Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for sintering or nodulizing iron ore, concentrated or not, or flue dust; machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus to include hot blast stoves and burners, blast piping and valves connecting the blowing engines with the furnace, scale cars, charging and hoisting apparatus, blast furnace gas piping, cleaners and washers; and parts of all the foregoing, but not to include wrought iron pipe or valves 10½ inches and under in diameter, nor structural iron work.

Free 5 p.c. 5 p.c.

This item was last revised as to wording in respect of wrought iron pipe in 1930 at which time the range was extended from 8 inches to  $10\frac{1}{2}$  inches. The rate has remained unchanged.

Production: Not available.

Imports: Not available.

Exports: Not available.

U.S.A. Duty: Not available.

Bound Rates: Not bound.

Cross-reference: Recommended Item 10.

Page-Hersey Tubes, Limited requested rewording that would exclude, on a continuing basis, pipe of a diameter made in Canada. The Canadian Petroleum Association did not make any specific reference to this item but as part of its general contention regarding any tariff item where coverage was to be broadened indicated a doubt as to justification. As well, the Association questioned "made in Canada" based on diameter.

### EXISTING TARIFF ITEM 410p

410p: Sundry articles of metal as follows, for use exclusively in metallurgical operations, namely: furnaces for the smelting of ores; converting apparatus for metallurgical processes in metals; apparatus for chemical conversion. extraction, reduction or recovery, n.o.p.; machinery for the extraction of precious metals by the chlorination or cyanide processes, not including pumps, vacuum pumps or compressors; blast furnace blowing engines for the production of pig iron; parts of the foregoing

Free Free Free

A ruling of the Department of National Revenue, Customs and Excise Division, indicates that rubber-lined steel pipe when fabricated to specification ready for installation in uranium processing plants and used exclusively for purposes of conveying leeching fluids in Ion Exchange Systems in connection with the recovery of uranium by the leeching process is entitled to entry under this tariff.

Production: Not available.
Imports: Not available.
Exports: Not available.
U.S.A. Duty: Not available.
Bound Rates: Not bound.

The application of Dunlop Canada Limited for amendment of this item so as to exclude rubber-lined pipe for use in uranium processing plants was not opposed. There are at least five Canadian companies producing pipe for this purpose and the industry possesses sufficient manufacturing capacity and technical ability to provide a comprehensive and efficient service. The exclusion of rubber-lined pipe from 410p would provide a measure of tariff protection. It will be noted, however, that the item makes no reference in terms of pipes or tubes and for that reason may not be within the Board's terms of reference.

### **EXISTING TARIFF ITEM 410z**

410z: Machinery and apparatus, n.o.p., and parts thereof, for the recovery of solid or liquid particles from flue or other waste gases at metallurgical or industrial plants, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in diameter.

5 p.c. 10 p.c.  $12\frac{1}{2}$  p.c.

This item was established in its present wording in 1930. The B.P. was reduced from  $7\frac{1}{2}$  p.c. to 5 p.c. in 1937.

Production: Not available.

Imports: Not available.

Exports: Not available.

U.S.A. Duty: Not available.

Bound Rates: Not bound.

Cross-reference: Recommended Item 11.

Representations by Page-Hersey Tubes, Limited were for rewording of this item in such manner as automatically to exclude pipe of a diameter made in Canada. There were no specific objections other than the general opposition advanced by the Canadian Petroleum Association with regard to the extension of coverage and the use of "made in Canada" based on diameter.

### **EXISTING TARIFF ITEM 848**

848(1): All machinery and apparatus and parts thereof (including motive power) and drilling mud, for use exclusively in exploratory or discovery work in connection with, and development, depletion and production of petroleum or natural gas wells; seamless, lapwelded and electric welded iron or steel casing, tubing and drill pipe for use in connection with natural gas or oil wells—(s.c. 5195)

Free Free Free

This item became effective in 1944.

Production: It is not possible to ascertain statistics for total domestic production classifiable under this item. Figures are available, however, for easing, one of the most important products under this item.

### Casing—Canadian Production

Year	Tons	of 2,000 Pounds
1950		1,037
1951		472
1952		12,370
1953		1,043
1954		
1955		
1956 (10 months)		10,148

Imports: Exact figures for imports under item 848(1) are not available. The following in terms of value, are thought to be reasonably accurate:

Year	\$
1950	6,761,909
1951	13,817,249
1952	13,050,636
1953	16,689,450
1954	18,525,049
1955	19,863,704

Imports of casing, by tonnages, were as follows:

Year	Tons of 2,000 Pounds
1950	33,648
1951	70,323
1952	
1953	95,617
1954	98,583
1955	91,833
1956 (8 months)	103,624

It can be seen that imports greatly exceed domestic production.

Exports: Nil.

U.S.A. Duty:  $7\frac{1}{2}$  p.c.

Bound Rates: Not bound.

Cross-reference: Recommended Items 12(1), (3).

Page-Hersey Tubes, Limited requested rewording of item 848(1) to provide duty-free entry for only casing and tubing more than 16 inches in diameter or more than such other larger diameter as may be made in Canada in the future—casing and tubing of a diameter made in Canada would, therefore, be dutiable under the company's proposals at 22½ p.c. (M.F.N.). This company stated that it cannot meet import prices without tariff protection. Since its prices are higher, it can obtain orders only during periods of shortage. However, the company claimed that it could produce from 80,000 to 90,000 tons of seamless tubing or casing per annum if it had adequate protection.

The Mannesmann Tube Company, Ltd., building a plant at Sault Ste. Marie for completion by early 1957, also requested rewording of 848(1) to exclude items made in Canada. The company said it will be working primarily to serve the petroleum industry and by June of 1958 would have a full range of sizes, grades and weights in everything but drill pipe. Annual capacity would be 225,000 tons of seamless hot-rolled pipe in the size range 4½ inches to 10½ inches, O.D. About 60 p.c. of initial production would probably be oil-well casing. The company preferred not to make precise recommendations regarding rates of duty since it had no Canadian production experience on which to base a recom-

mendation.

The Canadian Petroleum Association strenuously objected to the changes suggested by the applicant companies. Objections were entered also by The British American Oil Company Limited, Canadian Oil Companies, Limited, and Imperial Oil Limited. A survey of the Canadian Petroleum Association's membership showed that drillers and producers preferred seamless oil-country tubular goods in almost every instance. Seamless tubing had been available from a Canadian source only up to 7 inches O.D. The proposals of the applicants would have the effect of putting the greater part of tubing imports under item 397 (22½ p.c., M.F.N.). If the increase suggested by the applicants were granted it would mean, the Association stated, an average increase in cost of \$3,200 per well: in the Pembina field alone, some 4,000 to 5,000 wells were to be drilled and the rate increase would mean an additional cost of between \$9,600,000 and \$12,800,000. The Association said that increases in cost might retard the development of Canadian resources since other competitive sources of oil are available. Gas producers were not in a position to pass on increased costs to the consumer; firm prices had been set by contract with the pipeline companies and the producers would be forced to absorb any increase in cost. Also, lower profits might serve to curtail future investment. In rebuttal, Page-Hersey claimed that increased costs would be in capital costs, partially if not wholly recoverable through tax savings by higher depreciation write-offs. Page-Hersey claimed that at the present time Canada was the only one of fifty countries having oil reserves that did not levy a duty on oil-country tubular goods. The company also challenged the statement that ('anadian mills could not meet demand for casing. Mannesmann Tube stressed increased availability when its plant comes into operation.

Imperial Oil Limited while opposing in general terms increases in duties on oil-country goods, indicated that, if some duty were warranted, a more moderate rate (perhaps, 10 p.c. M.F.N.) should be adequate to protect such tubular goods

as may be made in Canada.

Two United Kingdom producers entered their objections to the proposals of the applicants. Stewarts and Lloyds stated that recent agreed (freight) charges negotiated by Page-Hersey on oil-well casing had had the effect of reducing the laid-down price of Page-Hersey's casing by 95 cents per 100 pounds or \$19.00 per ton. Such reduction had the same relative effect on United Kingdom exports as the imposition of a 12 p.c. duty.

Considerable discussion developed in connection with the matter of interchangeability. The Canadian Petroleum Association indicated that its members did not subscribe to the suggestion that welded and seamless tubing or casing are interchangeable. British American Oil stated that seamless casing and tubing was a necessity, to prevent collapse where high pressures were to be expected. This firm claimed that since welded pipe cannot be substituted for seamless, the application of a duty would not result in any advantage to Page-Hersey in the sizes over 7 inches in diameter. Imperial Oil also stressed that the two products were not in its opinion interchangeable. The Association further stated that the industry as a whole was unwilling to accept a product technically unsuitable for its needs when other products in the world markets more nearly met the requirements of the industry in a safe and economic manner and in keeping with provincial regulations (for example, welded tubing may not be used in deep wells in Alberta, by order of the provincial Conservation Board). The Association said it is resorted to only in relatively shallow wells and would constitute something like 10 to 15 p.c. of the total casing used. The Association's comments were supported by the evidence of a technical witness.

Further, the Canadian Petroleum Association indicated that it could not agree to a "made in Canada" distinction based solely on diameter. Grade, weight and quality were of extreme importance and it might very well be that while pipe of a diameter desired was made in Canada, the other specifications would not meet requirements. In this connection certain grades were available only from United States and United Kingdom sources, and producers of such specialty items provided supplies in fixed proportion to the quantities of volume pipe purchased by the customer. This evidence was confirmed by Stewarts and Lloyds of the United Kingdom.

Couplings have been admissible under 848 even though not specified, and in the interests of clarification the Canadian Petroleum Association requested that suitable rewording be undertaken. This proposal was in opposition to the request of Canadian Coupling and Fittings, which stressed that it was equipped to manufacture all sizes of couplings for tubings and casings up to those for 7-inch O.D. casing; thus far, it had had no incentive to undertake such production. It requested that the sizes it can produce be excluded from free entry under item 848.

Imperial Oil Limited requested that the revision of 848 should be such as to leave no doubt concerning the continuation of duty-free status of drill pipe. Page-Hersey was in agreement. Mannesmann indicated that its company would be producing drill pipe sometime after 1958.

848(2): Machinery and apparatus and parts thereof (including motive power) of a class or kind not made in Canada and drilling mud, for use in the exploration, discovery, development and operation of potash and rock salt mines or for use in the production of muriate of potash, or for use in the production of crushed and screened rock salt

Free Free Free

This item was created in its present wording and with identical rates, in 1954.

Production: Not available.
Imports: Not available.
Exports: Not available.
U.S.A. Duty: Various.
Bound Rates: Not bound.

Cross-reference: Recommended Item 12(2).

No objection was offered to the request made by Page-Hersey Tubes, Limited that this item be deleted, or reworded so as to provide rates equal to those under 397(a). No interest in the item, in so far as concerns pipe and tubes, was manifested by anyone.

848(3): Seamless, lapwelded and electric welded iron or steel casing, tubing and drill pipe, of a class or kind not made in Canada, for use in the exploration, discovery, development and operation of potash and rock salt mines or for use in the production of muriate of potash, or for use in the production of crushed and screened rock salt

Free Free Free

This item was created in its present wording and with identical rates, in 1954.

Production: Not available.
Imports: Not available.
Exports: Not available.
U.S.A. Duty: Various.
Bound Rates: Not bound.

Cross-reference: Recommended Item 3.

Page-Hersey Tubes, Limited requested rewording to exclude casing and tubing of a diameter made in Canada. There was no specific objection, although the Canadian Petroleum Association disagreed with "made in Canada" based on diameter only. Otherwise, no interest in the item was manifested by anyone.

848(4): Materials for use in the manufacture of the goods enumerated in (1), (2) and (3) of this item

Free Free Free

This item was created in its present wording and with identical rates, in 1954.

Production: Not available.
Imports: Not available.
Exports: Not available.
U.S.A. Duty: Various.
Bound Rates: Not bound.
Cross-reference: Various.

Page-Hersey's recommendations with regard to 848(1), (2) and (3) would require no change in 848(4) since it would not apply to the company's products. The Canadian Petroleum Association also suggested no change, since it would like 848(4) to continue should its 848(1) recommendation be accepted.

### EXISTING DRAWBACK ITEM 1017: LAPWELDED CASING

This item was last revised in 1936.

No drawback has been paid under this item since 1953-54. Lapwelded casing is apparently of declining importance and of little or no interest to the petroleum industry. Page-Hersey recommended deletion and no strenuous objection was registered.

### EXISTING DRAWBACK ITEMS 1018 and 1018a: LINE PIPE

1018: Seamless iron or steel tubing over four inches in diameter; iron or steel couplings therefor and complete parts of such couplings—When used in the transmission of natural gas under high pressure from the gas wells to points of distribution .. Drawback of 50 p.c.

This item was last revised in 1936. Drawback paid over the past five years has been as follows:

Year	\$
1951-52	
1952-53	79,653.11
1953-54	 32,439.30
1954-55	 47,802.92
1955-56	 37,854.11

1018a: Electric-welded pipe of iron or steel, more than sixteen inches in diameter, iron or steel couplings therefor and complete parts of such couplings—When used in the transmission of natural gas under high pressure to points of distribution . . . . . . . . . . Drawback of 50 p.c.

With regard to both 1018 and 1018a, Page-Hersey suggested deletion or rewording so that drawback would apply only to pipe of a diameter larger than that made in Canada. Page-Hersey claimed that it needed the full protection of the rates of duty named in its proposals for 397(a) and (b). The company could point to many instances where it had been impossible to compete with imports (under drawback) even though it sold its pipe at cost.

The Canadian Petroleum Association stated that with Trans-Canada and Westcoast Transmission preparing to provide gas to many urban centres across Canada, there would be an increase in pipeline requirements. Believing Canadian mills would not be able to meet the demand, the Association recommended that the drawback features be retained and expanded to cover all line pipe. This latter recommendation brought an objection from Standard Tube and T.I. in the form of a statement supporting Page-Hersey's brief.

Trans-Canada Pipe Lines Limited raised strong objection to Page-Hersey's proposal, claiming that elimination of the drawback and the increase in rate (as proposed under 397(a) and (b), would amount to a 300 p.c. increase in the effective rates that now exist. (See tariff item 397(b) for argument.) In a counter-proposal, this company suggested (a) an increase in drawback to 99 p.c., and (b) a modification of wording for the sake of clarity.

South Durham Steel & Iron Co. Ltd., favoured retention of the drawback items for reasons as advanced under 397(b). Stewarts and Lloyds also supported retention of drawback items and indicated interest in seeing the amount of drawback increased. This company had certain customers in Canada who preferred seamless pipe for the transmission of gas, and since they could not buy Canadian-made seamless pipe in all sizes up to 16 inches, they would be importing at a higher cost should the Page-Hersey proposals be accepted.

### EXISTING DRAWBACK ITEM 1028: STEEL BILLETS

1028: Steel billets—When used in the manufacture of the seamless pipes, tubes and flues enumerated in tariff items 399 and 410(d) ..... Drawback of 99 p.c.

This Drawback item has been unamended in wording and rate since 1930. Because of the fact that boiler tubes, etc. were duty-free under tariff item 399, and (certain) seamless casing and tubing (oil-country goods) were duty-free under tariff item 410d, Drawback Item 1028 was created to provide entry duty-free of billets to be used in the manufacture in Canada of such boiler tubes, pressure tubes, casing, etc. Although in most of the intervening 25 years, the item has been little used (with drawback running as low as a few hundred dollars), advantage was taken of it in the year preceding the opening of World War II, to the extent of about twenty-six thousand dollars. The average drawback paid over a long period might be in the neighborhood of \$6,000-\$8,000.

At the public hearings it was contended by at least one manufacturer (Page-Hersey) that, if unsuccessful in securing the imposition of duties on the tubes and casing above referred to, he should still have access to the provisions of this drawback.



### APPENDICES

TO THE

REPORT OF THE TARIFF BOARD

ON

REFERENCE No. 119



### List of Tariff Items Relating to Pipes and Tubes of Iron or Steel Reference No. 119

Following are the tariff items, as at present in the Customs Tariff, which have been the subject of representations before the Board in connection with the above-named Reference:

	1	Rates of Dut	y
Item Wording	B.P.	M.F.N.	Gen.
355b—Metal alloy strip or tubing, containing not less than thirty per cent by weight of nickel and twelve per cent by weight of chromium, for use in Canadian manufactures	Free	Free	20 p.c.
396 —Pipe, cast, of iron or steel, valued at not more than			*
five cents per pound	\$5.00 Free	\$12.00 7½ p.c.	\$14.00 10 p.c.
(a) Welded or seamless, with plain or processed ends, not more than $10\frac{1}{2}$ inches in diameter, n.o.p	15 p.c.	$27\frac{1}{2}$ p.c.	30 p.c.
GATT(b) Welded or seamless, with plain or processed ends, more than 10½ inches in diameter,	70 p.s.	22½ p.c.	00 p.00
n.o.p(c) Not joined, with plain ends, not more than	10 p.c.	15 p.c.	20 p.c.
2½ inches in diameter, n.o.p	5 p.c. $12\frac{1}{2}$ p.c.	10 p.c. 27½ p.c. 15 p.c.	15 p.c. 30 p.c.
398—Pipes and tubes, of steel, seamless, cold drawn, plain ends, valued at not less than five cents per pound, n.o.p	Free	5 p.c.	5 p.c.
plain ends, polished, valued at not less than five cents per pound; steel tubes, welded or seamless, more than 10½ inches in diameter, with plain ends, when imported for use exclusively in the manufacture or repair of rolls for paper-making machinery 198b—Tubing of iron or steel, not joined, not more than 5/16 inch in diameter, with one end swaged, or swaged,	Free	15 p.c.	30 p.c.
split and spread, but not further manufactured, when imported for use in the manufacture of fishing rods.  398c—Seamless steel tubing, valued at not less than five cents per pound, when imported by manufacturers of	Free	7½ p.c.	15 p.c.
roller bearings for use exclusively in the manufacture of such bearings in their own factories	Free	Free	30 p.c.
or not; pipe caps, of steel, not further manufactured than formed or bent to shape, deburred or not; for use in the manufacture of butt-welding fittings	Free	10 p.c.	35 p.c.
398e—Hot rolled steel hollows for use in the manufacture of cold reduced seamless steel tubes	Free	Free	30 p.c.
plain, swelled or thickened ends, when imported for use exclusively in the manufacture or repair of pressure parts of boilers, pulp mill digesters and vessels for the refining of oil, under regulations prescribed by the Minister.	Free	Free	Free

399c—Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in recovering crude petroleum.  400 —Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof.  GATT.  410b—Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in diameter.  410d—Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells; well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil wells.  410g—Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus to include hot blast stoves and burners, blast piping and valves connecting the blowing engines with the furnace, scale cars, charging and hoisting apparatus, blast furnace gas piping, cleaners and washers; and parts of all the foregoing, but not to include wrought iron pipe or valves 10½ inches and under in diameter, nor				Rates of Duty	
covered, not more than 3 inches in diameter, and brass trimmings, not polished, lacquered or otherwise manufactured, when imported by manufactures of iron or brass bedsteads for use exclusively in the manufacture of iron or brass bedsteads, in their own factories, under regulations prescribed by the Minister.  399b—Tubing, of wrought iron or steel, not more than one-half inch in diameter, in lengths not less than six feet, coated with metal, other than zinc, not polished, bent nor further manufactured, when imported by manufacturers to be further processed, in their own factories.  399e—Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in recovering crude petroleum.  400—Fittings and couplings of iron or steel, of every despiration, for iron or steel pipes and tubes; complete parts thereof. GATT.  410b—Machinery and apparatus for use exclusively in weaking or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in demanding the parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in diameter.  410d—Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power, machinery and apparatus and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells, well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil, or in prospecting for minerals, not to include motive power, tanking of a class or kind not made in Canada, for use in casing water, natural gas or oil or expectively in the metallurgy or smelting of orea, so kind not made in Canada, for use in casing water, natural gas or oil or in prospecting for one steel tubing of a class or kind not made in Canada, for us	Item	Wording	B.P.	M.F.N.	Gen.
half inch in diameter, in lengths not less than six feet, coated with metal, other than zinc, not polished, bent nor further manufactured, when imported by manufacturers to be further processed, in their own factories.  399c—Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in recovering crude petroleum.  400 —Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof.  GATT  410b—Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in diameter.  410d—Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada, for use tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil wells.  410g—Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for sintering or nodulizing iron ore, concentrated or not, or fine dust; machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus for exclusively in the foregoing, but not to include wrought iron pipe or valves 10½ inches and under in diameter, nor structural iron work.  410p—Sundry articles of metal as follows, for use exclusively in metallurgical operations, namely: furnaces for the smelting of ores; converting ap		covered, not more than 3 inches in diameter, and brass trimmings, not polished, lacquered or otherwise manufactured, when imported by manufacturers of iron or brass bedsteads for use exclusively in the manufacture of iron or brass bedsteads, in their own factories, under regulations prescribed by the Minister	Free	Free	Free
399c—Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in recovering crude petroleum	399b- <b>-</b>	half inch in diameter, in lengths not less than six feet, coated with metal, other than zinc, not polished, bent nor further manufactured, when imported by manufacturers to be further processed,	Free	7½ p.c.	7½ p.c.
400 —Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof	399c—	Pipes and tubes, not exceeding two inches in diameter, made from puddled iron, when for use exclusively in	Free		
410b—Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves 10½ inches or less in diameter.  410d—Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells; well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil wells.  410g—Articles for use exclusively in the metallurgy or smelting of iron, viz.: machinery and apparatus for use exclusively in the construction, equipment and repairs of blast furnaces for smelting iron ore, such machinery and apparatus to include hot blast stoves and burners, blast piping and valves connecting the blowing engines with the furnace, scale cars, charging and hoisting apparatus, blast furnace gas piping, cleaners and washers; and parts of all the foregoing, but not to include wrought iron pipe or valves 10½ inches and under in diameter, nor structural iron work.  410p—Sundry articles of metal as follows, for use exclusively in metallurgical operations, namely: furnaces for the smelting of ores; converting apparatus for chemical conversion, extraction, reduction or recovery, n.o.p.; machinery for the extraction of precious metals by the chlorination or cyanide processes, not including pumps, vacuum pumps or compressors; blast furnace blowing engines for the production of		Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof	20 p.c.		30 p.c.
410d—Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells; well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel tubing of a class or kind not made in Canada, for use in casing water, natural gas or oil wells		Machinery and apparatus for use exclusively in washing or dry cleaning coal at coal mines or coke plants; machinery and apparatus for use exclusively in producing coke and gas; machinery and apparatus for use exclusively in the distillation or recovery of products from coal tar or gas; and complete parts of all the foregoing, not to include motive power, tanks for gas, nor pipes and valves	Free		12½ p.c.
in casing water, natural gas or oil wells	410d	Well-drilling machinery and apparatus, and complete parts thereof, for use exclusively in drilling for water, natural gas or oil, or in prospecting for minerals, not to include motive power; machinery and apparatus of a class or kind not made in Canada for maintenance and testing purposes in connection with gas or oil wells; well-packers and complete parts thereof, for oil or gas wells; seamless iron or steel			
structural iron work	410g—	in casing water, natural gas or oil wells	Free	Free	Free
pig iron; parts of the foregoing	410p—	valves 10½ inches and under in diameter, nor structural iron work.  Sundry articles of metal as follows, for use exclusively in metallurgical operations, namely: furnaces for the smelting of ores; converting apparatus for metallurgical processes in metals; apparatus for chemical conversion, extraction, reduction or recovery, n.o.p.; machinery for the extraction of precious metals by the chlorination or cyanide processes, not including pumps, vacuum pumps or compressors:	Free	5 p.c.	5 p.c.
		pig iron; parts of the foregoing.	Free	Free	Free

				Rates of Du	ity
Item	Wording		B.P.	M.F.N.	Gen.
	-Machinery and apparatus, n.o.p., and the recovery of solid or liquid par other waste gases at metallurgi plants, not to include motive pow nor pipes and valves 10½ inches or le	ticles from flue or cal or industrial er, tanks for gas, ess in diameter	5 p.c.	10 p.c.	12½ p.c.
848 -	-(1) All machinery and apparatus a (including motive power) and dril exclusively in exploratory or di connection with, and developmer production of petroleum or na seamless, lapwelded and electric steel casing, tubing and drill pipe tion with natural gas or oil wells	ling mud, for use scovery work in nt, depletion and tural gas wells; welded iron or for use in connec-	Free	Free	Free
	(2) Machinery and apparatus an (including motive power) of a c made in Canada and drilling mu exploration, discovery, developme of potash and rock salt mines o production of muriate of potash, production of crushed and screened	d parts thereof lass or kind not d, for use in the nt and operation or for use in the or for use in the	Free	Free	Free
	(3) Seamless, lapwelded and electric steel casing, tubing and drill pipe, not made in Canada, for use in discovery, development and operand rock salt mines or for use in muriate of potash, or for use in trushed and screened rock salt	of a class or kind the exploration, ration of potash the production of the production of	Free	Free	Free
	(4) Materials for use in the manufacenumerated in (1), (2) and (3) of this	ture of the goods	Free	Free	Free
					Drawback of Duty
1017 -	Lapwelded tubing of iron or steel, not less than four inches in diameter, threaded and coupled or not; iron or steel couplings therefor and complete parts of such couplings.	When used in ca natural gas we mission of nat pressure from of distribution.	lls, or for tl ural gas un gas wells t	der high o points	50 p.c.
1018 -	Seamless iron or steel tubing over four inches in diameter; iron or steel couplings therefor and complete parts of such couplings.	When used in t natural gas u from the gas distribution	nder high wells to p	pressure oints of	50 p.c.
1018a-	Electric-welded pipe of iron or steel, more than sixteen inches in diameter, iron or steel couplings therefor and complete parts of such couplings.	When used in t natural gas und points of distri	der high pro	essure to	50 p.c.
1028 -	—Steel billets	When used in the seamless pipes enumerated in 410d: no draw under this iter tubes and flu Tariff items 3 dutiable under of Schedule A t	tariff items back shall m when the es enumer 399 and 4 the Genera	and flues 399 and be paid e pipes, rated in 10d are al Tariff	99 p.c.

### NOMINAL ROLL OF PARTICIPANTS IN PUBLIC SITTINGS

Acton, Corporation of the Town of	Acton, Ont.
Algoma Steel Corporation, Limited	Sault Ste. Marie. Ont.
Allied Ironfounders Limited	London, England
Anthes-Imperial Company Limited, The	St. Catharines, Ont.
Armco Drainage & Metal Products of Canada Ltd.	Guelph. Ont.
Atlas Steels Limited	
Bolton, John H.	Toronto, Ont.
Boyles Bros. Drilling Company Ltd.	Vancouver, B.C.
British American Oil Company Limited, The	Toronto, Ont.
Byers, A.M., Company	
Canada Iron Foundries, Limited.	Montreal, Que.
Canadian Coupling & Fittings Limited	
Canadian Diamond Drilling Association	
Canadian Institute of Plumbing and Heating	
Canadian Oil Companies, Limited	
Canadian Petroleum Association	· ·
Canadian SKF Company Limited.	
Canadian Western Pipe Mills Ltd,	/
Chemical Resistant Services Company	
Clay Cross (Iron & Foundries) Ltd.	
Crane Limited	
Dominion Natural Gas Company, Limited	, ,
Dunlop Canada Limited	•
Fischer Bearings (Canada) Ltd.	
Ford Motor Company of Canada, Limited	
Inglis, John, Co. Limited	
Imperial Oil Limited	
nternational Nickel Company of Canada, Limited, The	
Interprovincial Pipe Line Company	
Interprovincial Utilities Limited	Ottawa, Ont.
Ladish Co. of Canada Ltd.	Brantford, Ont.
Lakeland Natural Gas Limited	Toronto, Ont.
Longueuil, City of	
Mannesmann Tube Company, Ltd	
McKinnon Industries Limited	St. Catharines, Ont.
Midwest Mining Supplies Limited	Winnipeg, Man.
Oakton Products Limited	
Page-Hersey Tubes, Limited	Toronto, Ont.
Public Utilities Commission of Galt	Galt, Ont.
Public Utilities Commission	Woodstock, Ont.
Stanton Ironworks Company Limited, The	Near Nottingham, England
Standard Tube and T.I. Limited	Woodstock, Ont.
Staveley Iron & Chemical Company Limited, The	Near Chesterfield, England
Steel Company of Canada, Limited, The	Hamilton, Ont.
Stewarts and Lloyds of Canada Limited	Toronto, Ont.
South Durham Steel & Iron Co., Ltd.	Middlesbrough, England
Taylor Forge & Pipe Works of Canada, Ltd	Hamilton, Ont.
Timken Roller Bearing Company	St. Thomas, Ont.
Trans-Canada Pipe Lines Limited	Calgary, Alta.
Tube Investments Limited	Birmingham, England
Tube Turns of Canada Limited	Chatham, Ont.
Warden King Limited	Montreal, Que.

### STATISTICS OF IMPORTS, EXPORTS, AND PRODUCTION

OF

### PIPES AND TUBES OF IRON OR STEEL

The following import statistics are compiled on two bases:

- (a) Dominion Bureau of Statistics import classifications, as shown in *Trade of Canada: Imports*. These are related to tariff items dealing with pipes and tubes, although they do not coincide exactly in many instances; with two exceptions, values only are available.
- (b) the American Iron and Steel Institute's (AISI) definitions as applied by the D.B.S., and published in *The Primary Iron and Steel Industry*.

Canadian production data corresponding to tariff items 397(a), (b), (c), 398, 399, and 848 are from Part II of Page-Hersey Tubes, Limited's brief on Reference 119. In a number of instances the figures for production do not correspond precisely with the tariff classifications. It is felt, however, that they do give a useful indication of production of the products described in the various tariff items.

Canadian production data for tariff items 396, 396a and 400 are from two D.B.S. publications: The Iron Castings Industry (annual) and December (monthly) issues of Iron Castings and Cast Iron Pipes and Fittings.

Export data are from D.B.S., Trade of Canada: Exports.

For 1955, duty free imports under dutiable tariff items are not extracted.

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL<sup>1</sup>

(tons of 2000 lbs.)

Total Imports Production Total Exports* Domestic Production Relation Total Exports* Disappearance 189, 121						
n.a.     99 121     n.a.³       68,014     143,916     5,146     206,       189,008     244,400     7,867     425,       152,757     260,547     7,070     406,       256,599     277,724     5,185     529,       266,634     234,696     2,980     498,       264,586     288,389     2,062     5,649       165,197     332,747     5,649     492,		Total Imports	Total Canadian Production	Total Exports2	Domestic Disappearance	Imports as Percentage of D.D.
68,014     143,916     5,146     206,       189,008     244,40     7,867     425,       152,757     260,547     7,070     406,       256,599     277,724     5,185     529,       266,634     234,696     2,980     498,       264,586     288,389     2,062     549,       165,197     332,747     5,649     492,	1937	п.а.	99, 121	n.a.³		Valuation
189,008     244,400     7,867     425,       152,757     266,547     7,070     426,       256,590     277,724     5,185     528,       266,634     234,696     2,980     498,       244,586     238,389     2,062     530,       165,197     332,747     5,649     499,	0707	68,014	143,916	5,146	206, 784	32.9
152,757     260,547     7,070     406,       256,599     277,724     5,185     529,       266,634     234,696     2,980     498,       266,634     238,696     2,980     498,       165,197     332,747     5,649     492,	1950	189,008	244,400	7,867	425,541	44.4
256,599 277,724 5,185 529, 266,634 234,696 2,980 498, 294,586 238,389 2,062 5492, 165,197 332,747 5,649 492.	1921	152,757	260,547	7,070	406,234	37.6
296,634 234,696 2,980 498, 294,886 238,389 2,062 6,980 165,197 332,747 5,649 492,	1952	256, 599	277,724	5,185	529, 138	48.5
294, 586 238, 389 2, 062 530, 165.197 332, 747 5, 649 492,	1953	266,634	234,696	2,980	498,350	53.5
165.197 332.747 5.649 492.	1954	294,586	238,389	2,062	530,913	55.5
	1955.	165,197	332,747	5,649	492, 295	33.5

Pipe, cast, valued at not more than five cents per pound (Tariff item 396-s.c. 5181)

Imports: based on Canadian Customs Definitions

(tons of 2000 lbs.)

Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom United States. Other	56 49 226	4,019	4,385	12,006 830 —	18,390	15,516 2 28	23,089 30 2	31,072 256 37	20,447 144 485
Total	331	4,082	4,385	12,836	18,781	15,546	23, 121	31,365	21,076
			Imports ar (tons of	Imports and Production (tons of 2000 lbs.)					
			The state of the s						The second secon

1. Imports <sup>1</sup> 2. Production Total of 1+2 4,082 87,093 91,175 12,836 88,635 101,471 18,781 101,650 120,431 15,546 71,630 87,776 23,121 91,580 114,701 31,365 1193,550 114,915 21,076 1199,225 140,301				The state of the s	
4,082     87,093     91,175       12,836     88,635     101,471       18,781     101,650     120,431       15,546     71,630     87,176       23,121     91,580     114,701       31,365     103,550     134,915       21,076     119,225     140,301	Year	1. Imports1	2. Production	Total of 1+2	Imports as Percentage of Total
12,836     88,635     101,471       18,781     101,650     120,431       15,546     71,630     87,176       23,121     91,580     114,701       31,365     103,550     134,915       21,076     119,225     140,301	1948	4,082	87,093	91,175	4.47
18,781     101,650     120,431       15,546     71,630     87,176       23,121     91,580     114,701       31,365     103,550     134,915       21,076     119,225     140,301	1950.	12,836	88,635	101,471	12.64
15,546 77,630 87,176 23,121 91,580 114,701 31,365 105,550 134,915 21,076 119,225 140,301	1021	18,781	101,650	120,431	15.50
23,121 91,580 114,701 31,365 103,550 134,915 21,076 119,225 140,301	1922	15,546	71,630	87,176	17.80
31,365 103,550 134,915 21,076 119,225 140,301	1953	23, 121	91,580	114,701	20.10
21,076 119,225 140,301	1954	31,365	103,550	134,915	23.24
	1955	21,076	119,225	140,301	15.02

1 Imports for 1948 to 1952, inclusive, may include some tonnages of soil pipe, as well as pressure pipe; figures for subsequent years are thought to consist largely of imports of cast iron pressure (water) pipe.

 $<sup>^1</sup>$  Excluding cast iron pipe; excluding iron and steel pipe fittings.  $^2$  Of both Canadian and foreign produce.  $^3$  Exports in 1937 were valued at \$932,116. Tounage is not available.

Pipe, cast, n.o.p.1 (Tariff item 396a-s.c. 5182)

Imports: based on Canadian Customs Definitions

3,241 1,134 5 4,380 21 1953 634 1,260 113 2,007 1952 | | 1,336 465 612 259 1951 | | Duty Free Imports (tons of 2000 lbs.) 386 1950 105 1949 117 217 334 670 1,207 1948 | | 1937 2 20 23 46 1 | United States..... Alaska United States..... Other Total.... United Kingdom.....

3.962 362 6

2,775

1955

1954

4,330

3,397

| |

	(tons of 2000 lbs.)	libs.)		
Vear	1. Imports	2. Production	Total of 1+2	Imports as Percentage of Total
1948	1,207	29,159	30,366	3.97
1920	386	32,700	33.086	1.16
1951	1,336	30,000	31,336	4.26
1952.	2,007	37,200	39, 207	5.11
1953	4,380	39, 200	43,580	10.05
1954.	3,634	45,400	49,034	7.41
and	4 220	43 500	47 830	50 6

Imports and Production

1 0

1 It is thought that the major portion of imports under this tariff item consists of east iron soil pipe.

Source

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL—Con.

Pipes and tubes, wrought, plain or coated:—Welded or seamless, with plain or processed ends, not more than 10½ inches in diameter, n.o.p. (Tariff item 397(a)—s.c. 5188)

Imports: based on Canadian Customs Definitions (dollars)

Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom United States. Belgium and Luxembourg. Other	68, 905 233, 321 4, 617	4,526,389 12,914 6,433	6,833,472 7,290 23,237	2,376,758 2,226,734 51,313 8,016 6,387	2, 114, 201 7, 534, 327 73, 793 6, 425 179, 005	2,775,167 5,625,096 26,390 53,197 16,088	2,787,518 4,685,588 14,949 30,834 32,608	1,834,030 3,819,826 20,889 334,903 68,789	1,837,142 4,610,731 22,102 56,969 148,920
Total	306,843	4,803,883	7,521,402	4,669,208	9,907,751	8,495,938	7,551,497	6,078,437	6,675,864
United Kingdom. United States. Alaska.		261, 250	Duty Free 2,276 292,338	ee Imports 110,926 102,241	41,657	37, 641 361, 338 —	43, 334	354,647 488,243 1,425	111

Imports (on AISI basis) and Production

(tons of 2000 lbs.)

Year	1. Imports1	2. Production <sup>2</sup>	Total of 1+2	Imports as Percentage of Total
1048	17,188	n.a.	n.a.	п.а.
1950	27,442	n.a.	n.a.	11.3.
1951	31,041	242,319	273,360	15.0
1952	42,077	237,043	955 708	1.0.1
1953	55,528	904 777	937 101	13.7
1954	24,414	987,650	309 540	12.
1955.	24,007	201,000	002, 030	0.44

<sup>&</sup>lt;sup>1</sup> Imports of seamless pipes and tubes, 12" and under in diameter, hot finished, plus welded pipes and tubes 4" and under in diameter. <sup>2</sup> Page-Hersey estimate.

# Pipes and tubes, wrought, plain or coated:—Welded or seamless, with plain or processed ends, more than 10½ inches in diameter, n.o.p. (Tariff item 397(b)—s.c. 5187)

Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1921	1952	1953	1954	1955
United Kingdom United States. Germany Other	65,746 143,278 362	763, 918 598, 094	724,521	12,705,812	2, 222, 800 1, 182, 869 11, 667	1,731,255	14,674,217 $17,088$	736, 156 15, 950, 169 1, 541 7, 444	2,880,439 1,263
Total	209,386	1,362,012	1,410,252	13,497,065	3,417,336	16,008,754	15,615,677	16,695,310	3,093,421
United Kingdom United States Netherlands Germany Alaska	1 1 1 1 5	2,591	Duty Fr 721	Duty Free Imports 721 1,939	8,174	4, 582 6, 583 —	11,985	1,272 21,086 58,131 20,716	1111

Imports (on AISI basis) and Production

(tons of 2000 lbs.)

Year	1. Imports <sup>1</sup>	2. Production <sup>2</sup>	Total of 1+2	Imports as Percentage of Total
1948	10,716	n.a.	n.a.	
1950	111,059	n.a.	n.a.	n.a.
1951	24,990	11,345	36,335	000.00
1952	110,384	12,045	110,554	000.00
	135 317	32,702	168.019	80.00
1955	15,781	54,472	70,253	22.5

 $<sup>^{1}</sup>$ Imports of seamless pipe and tubes, over 12' in diameter, hot finished, plus welded pipe over 4' in diameter.  $^{2}$  Page-Hersey estimate.

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL-Con.

Pipes and tubes, wrought, plain or coated, not joined, with plain ends, not more than 2½ inches in diameter, n.o.p. (Tariff item 397(c)—s.c. 5185)

Imports: based on Canadian Customs Definitions

1955	623 91,747 1,431 1,241	95,042	1			
1954	1, 015 32, 747 2, 961	36,723	23,875			
1953	5,998	46,221	11			
1952	5,787	120,874	102			
1921	16, 755 125, 721 2, 115 7, 028	151,619	1,826 5,692	roduction	Production (dollars)	n.a. n.a. 52,519 21,491 12,885 13,535 n.a.
1950	15,508 78,601 1,749	95,858	Duty Free Imports ,256 — ,168 —	basis) and P	Produc	
1949	1,519 44,811	46,330	Duty E. 2,256 12,168	Imports (on AISI basis) and Production	Imports	Included under tariff item 397(a)
				0		
1948	854,589	86,443	17,373	Imp	The state of the s	
1937 1948	159 854 27,107 85,589 8,740	36,006 86,443	17,373	Imp		

Pipes and tubes, wrought, plain or coated:-n.o.p. (Tariff item 397(d)-s.c. 5191)

Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom. United States. Other	3,067 68,017 21,088	3,798 356,039	14,159 516,154	17,759	22,021 1,341,234	1,313,187	23,195	9,220 669,370 1,240	5,314 1,681,952 6,815
Total	92,172	359,837	530,313	761,657	1,363,255	1, 332, 254	792, 533	679,830	1,694,081
United States	1 1	10,859	Duty F. 38,944	Duty Free Imports 3,944 9,189	70,225	38,943	40,702	28,566	esen

Imports (on AISI basis) and Production

(tons of 2000 lbs.)

Year	Imports	Production
1948 1950 1951 1952 1953	3,428 2,676 7,389	It is understood that there is little or no production of
1954 1955		"genuine" wrought iron pipe in Canada.

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL-Con.

Pipes and tubes, seamless, cold drawn, plain ends, valued at not less than five cents per pound, n.o.p. Tariff item 398-s.c. 5186) Seamless tubing, valued at not less than five cents per pound, for the manufacture of roller bearings (9/4/52) Tariff item 398c—s.c. 5186)

Imports: based on Canadian Customs Definitions

819, 548 5, 261, 130 2, 741 229, 556 6,312,975 1955 1,447,431 251,926 353 766,143 2,045,881 177 33,036 2,845,237 1954 1,418,713 100,260 1,157,211 1,931,489 3,803 31,662 3,124,165 1953 955, 503 99, 506 1,206,397 2,192,367 39,477 50,640 3,488,881 1952 1,545,994 1,663,509 8,614 30,745 972, 290 86, 699 3,248,862 477,848 1,536,191 982, 263 43, 657 1,599 2,015,638 Duty Free Imports 1950 246,241 2,356,206 686 463,799 2,603,133 1949 79,361 1,844,368 1,923,729 237,464 1948 242, 793 390, 202 645,024 1937 11 Total.... Inited States..... Sweden Other United States..... Alaska Germany United Kingdom Source

Imports (on AISI basis) and Production (tons of 2000 lbs.)

Year	1. Imports <sup>1</sup>	2. Production <sup>2</sup>	Total of 1+2	Imports as Percentage of Total
1948 1950 1951 1952 1953 1954	7, 949 5, 626 10, 463 9, 868 10, 800 10, 269 10, 315	n.a. 2,460 2,375 804 146 153	n.a. n.a. 12,923 : 12,923 : 11,604 10,415	n.a. n.a. 81.0 80.6 93.1 98.6

<sup>&</sup>lt;sup>1</sup> Imports of seamless pipes and tubes, 12" and under in diameter, cold drawn, for all purposes (other than for use in boilers).

Seamless mechanical tubing, cold drawn.

Pipes and tubes, seamless, cold drawn, plain ends, polished, valued at not less than five cents per pound; tubes, welded or seamless, more than 10½" in diameter, with plain ends, for manufacture or repair of rolls for paper-making machinery (Tariff item 398a-s.c. 5193)

Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom United States.	148 417	83, 449 23, 719	20, 105 36, 897	29, 091 34, 511	81, 378 23, 263	32,601 9,479	30,483 5,215	34, 975 9, 106	18, 175 32, 595
Total	565	107,168	57,005	63,602	104,641	42,080	35,698	44,081	50,770
			Duty Fr	Duty Free Imports					
United States	1	1,658	1,020	1	7,322	3,441	115	. 70.	1

Imports (on AISI basis) and Production

Production	See tariff item 398.	
Imports	Included under tariff item 398	Prior to 1937 all wording after the "" did not amoun

Tubing, not joined, not more than 5/16 inch in diameter, with one end swaged, or swaged, split and spread, but not further manufactured, for use in the manufacture of fishing rods (Tariff item 398b—s.c. 5194)

Imports: based on Canadian Customs Definitions

			The state of the s						
Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom	823 368	3,873	23,584	4,988	681	- Annual	1,532	4,824	817
Total	1,191	3,873	23, 584	4,988	681	, graduate	1,532	4,824	817

Imports (on AISI basis) and Production Not available

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL-Con.

not further manufactured than formed or bent to shape, for the manufacture of butt-welding fittings Pipe, seamless, not further manufactured than cut to length and formed or bent to shape; pipe caps, (Tariff item 398d—s.c. 5197)

Imports: based on Canadian Customs Definitions

23,088 616,475 1955 32,885 562,891 595,776 1954 4,018 418,168 422, 186 1953 548,674 548,674 1952 3,748 319,736 Imports (on AISI basis) and Production Not available 3,034 300,515 1950 (dollars) 23,819 23,819 19491 1948 <sup>1</sup> Imports shown for 1949 are from August 1, 1949. 1937 11 United Kingdom..... United States..... Total Source

Pipes, tubes and flues, wrought, iron or steel, with plain, swelled, or thickened ends, for the manufacture or repair of pressure parts of boilers, pulp mill digesters and vessels for the refining of oil (Tariff item 399—s.c. 5183)

Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom. United States. Sweden. Other	285, 536 488, 146 12, 068 19, 236	2,330,570	403,575 3,404,306 2,833	263, 341 1, 446, 259	829, 452 1, 661, 890 30, 018 69, 907	1,014,974 3,080,222 60,531 14,019	636, 520 2, 388, 297 63, 850	893, 612 1,725,844 9,724 49,620	974, 446 1, 967, 230 51, 608 55, 071
Total	808,581	2,330,723	3,810,714	1,709,600	2,591,267	4,169,746	3,088,667	2,678,800	3,048,355
		Impor	ts (on AISI b	mports (on AISI basis) and Production	duction				

(tons of 2000 lbs.)

Year	1. Imports	2. Production	Total of 1+2	Imports as Fercentage of Total
1948	12,382	n.a.	n.a.	n.a.
1950	7,032	n.a.	n.a.	n.a. 75 6
1951	12, 242	5,851	91 458	0.18
1952	17,507	2,081	10 098	94.7
1953	10,545	200	0,983	000
1954.	0,018	- CNO	11,008	e e e e e e e e e e e e e e e e e e e
1955.	9,108	1,690	11,000	

Pipes and tubes, wrought, brass covered, not more than 3 inches in diameter, and brass trimmings, not polished, lacquered or otherwise manufactured, for the manufacture of iron or brass bedsteads (Tariff item 399a—s.c. 5184)

### Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1921	1952	1953	1954	1955
United States	235	the state of the s		-	1		1		and the second
Total.	235		- Section 1	1	1	1	1	1	1

Imports (on AISI basis) and Production

(tons of 2000 lbs.)

Year	Imports	Production
1948 1950 1951 1952 1954 1954	81 341 548 171 47 22	Not available

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL—Con.

Tubing, wrought, not more than ½ inch in diameter, in lengths not less than six feet, coated with metal, other than zinc, not polished, bent nor further manufactured, imported by manufacturers to be further processed (Tariff item 399b—s.c. 5190)

Imports: based on Canadian Customs Definitions

(dollars)

	Source	1937	1948	1949	1950	1921	1952	1953	1954	1955
	United Kingdom. United States.	10,913	20,338	1,122 45,898	117,552	145,218	1,726 126,035	1,687 169,231	149,662	247,288
	Total	10,913	20,338	47,020	117,552	145,218	127,761	170,918	149,662	247,288
•				Duty Fr	Duty Free Imports					
,	United States	[	1	1,826	14,420	9,202	5,072	2,291	1,405	
			Impo	Imports (on AISI basis) and Production	basis) and Pr	oduction				

Imports (on AISI basis) and Production (tons of 2000 lbs.)

Production			1	. !		1		
Imports	183	454	H = 0	951	960	2007	ane	
Year	1948	1950	1951	1952	1953,	1954	1955.	

Pipes and tubes, not exceeding two inches in diameter, of puddled iron, for recovering petroleum; Apparatus and complete parts for producing oil from shales and oil-sands; Apparatus and parts for petroleum and natural gas wells, potash, and rock salt mines. (Tariff items 399c, 410d and 848—s.c. 5195)

Imports: based on Canadian Customs Definitions

(dollars)

Source	1937	1948	1949	1950	1921	1952	1953	1954	1955
United Kingdom. United States. Germany Belgium and Luxembourg. Other	11111	3,955,847	2, 287 8, 182, 402 23, 703 146, 445	779,426 5,829,675 127,877 24,931	1,200,004 11,184,484 267,208 1,062,058 103,495	1,927,150 9,369,915 503,694 273,284 976,593	1,726,393 12,483,896 993,835 406,148 1,079,178	2,617,407 11,680,756 1,171,233 247,632 2,808,021	1,847,074 10,808,143 643,256 459,401 6,105,830
Total		3,955,847	8,354,837	6,761,909	13,817,249	13,050,636	16,689,450	18, 525, 049	19,863,704

Imports (on AISI basis) and Production

(tons of 2000 lbs.)

1 Oil well casing only.

### SUMMARY: PIPES AND TUBES OF IRON OR STEEL—Con.

Fittings and couplings of iron or steel, of every description, for iron or steel pipes and tubes; complete parts thereof (Tariff item 400—s.c. 5192 and 5196)

Imports: based on Canadian Customs Definitions

				lob)	(dollars)					
Source		1937	1948	1949	1950	1951	1952	1953	1954	1955
United Kingdom United States. Germany. Other		11,436 482,153 3,067	2,514,141	2,460,312	3, 043, 797 2, 396	281, 148 4, 457, 574 32, 613 1, 248	511,512 6,226,273 20,327 3,013	5,592,665 90,702 100,869	475, 596 5, 054, 345 160, 105 147, 441	5, 244, 549 294, 692 344, 825
Total		496,656	2,516,016	2,464,356	3, 101, 020	4,772,583	6,761,125	6,365,813	5,837,487	6,482,187
United Kingdom United States. Sweden. Alaska.		1111	67,774	Duty Fre 46, 258	Duty Free Imports 46, 258 54, 772	89,476	3,037 100,986 1,000	81, 683	269 45, 931 33, 963	1111
			Impor	Imports (on AISI basis) and Production (tons of 2000 lbs.)	asis) and Pro 2000 lbs.)	duction				
Year				1. Imports	2. Pr	2. Production	Total of 1+2	1+2	Imports as Percentage of Total	Percentage otal
1948 1950 1951 1952 1953 1964				2, 446 3, 072 5, 077 7, 229 6, 022 5, 5711 6, 3111	10 10 10 4 4 4 10	57, 185 53, 265 51, 450 40, 970 43, 420 43, 050 53, 569	59, 631 56, 337 56, 527 48, 199 49, 442 48, 621 59, 880	17777777777777777777777777777777777777	4 9 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.1 5.4 9.0 115.0 111.4 10.5
<sup>1</sup> Estimate.			Expor	Exports of Pipe Fittings of Iron or Steel <sup>1</sup> (dollars)	Fittings of Iron (dollars)	or Steel				
	19372	1948	1950	1921	1952	1953	1954	1955		
	186,335	1,209,156	530,859	809,900	667,348	326,272	237,550	268,714		

<sup>1</sup> Of both Canadian and foreign produce. 2 Canadian produce only. Exports (foreign produce) of pipes, tubes, and pipe fittings in 1937 (not available separately) amounted to \$3,477.

### FREIGHT RATES

The rates used in this appendix are those in force on September 1, 1956. Possibly the only exceptions are the agreed charges for "oil-country goods" from Port Moody, B.C., which are operative from December 27, 1956.

While these rates include the interim rail freight increase of 7 per cent, effective July 3, 1956, they do not include the 4 per cent general interim increase authorized in December.

The rates cover all forms of transportation which are factors in the movement of pipes or tubes. The symbol following each rate in the tables indicates the particular form of transport involved as follows:

- <sup>1</sup> Carload, rail
- <sup>2</sup> Less than carload, rail
- 3 Truckload
- 4 Boat
- 5 Boat and rail
- 6 Pool car, rail
- 7 Less than truckload

Welded and Seamless Steel Pipe (Excluding oil-country goods) (cents per 100 lbs.)

United Kingdom	73-794	181-01		104 64	·6/-0/	1	73-794	I,	1	1	1	1054		1		1	2376	I	1	2858	1	2265	2456	1		8534
Napa Calif.	tan-	1	1		1 1	1	1	1		1	1	1			1	1	2131	1	1	2321	1	1801	2061	J	1	921
Provo Utah	-			1		1	1	İ	1	1	1	-	1	-	1	1	$213^{1}$	1	1	2321	-	1801	2061	-	1	1001
Chicago		1	The same of the sa	İ	1 1			1	1	- Banker		1	_	1	İ	-	$150^{1}$		Ī	1811		2301	2381		1	1801
Lorain Ohio	1461	1291	l			1	-		1	1	1		811	1	581	1	1	1	1	l	1	2771	2991	1	1	1
Youngstown Ohio	Management of the Control of the Con	•	Manage	1	1 1	1	No.	1	1	761	1		741	1	1	1	1	1	1	1	*	.1	1	1		1
Pittsburgh Penn.	1521	1101	118 <sub>1</sub>	1	1061		1	861		821	-	, manager of	811	1	į	1	1	1	1	I	-	1	,	1	ĺ	1
Fairless Penn.	1311	1141	1001	1	0,00	1	1	1	[	1	-	1	Same or a	1	1	İ	Baseved	1	1	1	1	-	1	1	1	
Sault Ste. Port Moody Fairless Pittsburgh Youngstown Lorain Marie B.C. Penn. Penn. Ohio Ohio	1	_	-	- Contraction -			1	1		1	Ī	1	Į	-	1	1	1	Ī	-	1	1	1071	1241	1	1	
Sault Ste. Marie	1	and the same of th		*		1 1	1	manual ma	1	1		1	*****	1	1	1	1531	1		2191	1	2611	2611	1	1	1
Welland	1071	1041	1041	1	100	541	643	431	433	291	-	1	191	193	56-631	563	1475	$132 \text{ (over } 20'')^1$	$154 (to 20")^1$	189-202 (to 20")1	$294 \text{ (over } 20'')^1$	235-2441	252-262 (to 5")1	239-246 (6" to 20") <sup>1</sup>	369 (over 20")1	1101
Montreal	741			324	403			681	713			503	384	731		871	1476	1541	1	2021	1	235-2421	252-2591	-	1	1101
From:	To: Halifax	Saint John	Quebec City		7.4	Montreal		Oshawa		Toronto			Hamilton		Windsor		Winnipeg	0		Regina		Calgary	Edmonton			Vancouver

Cast Iron Water Pipe and Fittings

(cents per 100 lbs.)

From:	Trois Rivieres	Toronto	Winnipeg	United Kingdom
				75 to 914
To Saint John		1		75 +0 014
Chapter City		1	1	75 40 014
		- Contraction of the Contraction	1 1	
Toronto		173		1
Winnipeg	1631	515	881	248 to 2615
Saskatoon	1401	1101	3 1	84 to 974
Vancouver		OTT		

Electric-Welded Steel Tubing (cents per 100 lbs.)

United Kingdom	73 (under 4")4	79 (4" to 8")4	1	73 (under 4")4	79 (4" to 8")4	73 (under 4")4	79 (4" to 8")4	73 (under 4")4	79 (4" to 8")4		1	1		1054	1	1	1	1	1	1	1	1	1	1	1	1	2456	İ	2266	1	834
Milwaukee	Barres	1	1	j	1	1	1	!	1	Î	1	1		1	1	1	1	1	-	1	1	1	1501	1	1891	1	2631	!	2441	1	1801
Chicago	1			1	1	1	ļ	1	i	1	1	1	1		1	1	1	i	}	paraphane	ł	99.22.0	$150^{1}$	1	1811	1	2381	1	2301	ł	1801
New York	1291	1	1	1101	1	1	i	1	1	1	-	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Buffalo	8	1	1	1	agentual .	-		ancom	-	803	553	1	apronut.	438		1	433	1	-	683	1	-	!	1	1	1	Amazan		- manual	ì	
Detroit		-	1	-	-	-	· ·	1	Appear	1043	299		-	633	711	832	583	1	I	153	301	462	1	***************************************	1	ļ	ļ	-	1	-	1
Woodstock	1461	1792	1873	1421		1	Mercury	851	1362	-	593	631	822	403	$54^{1}$	742	323	441	552	443	109	833	1541		2021		2621	1	2621		1101
Welland	1071	Annual Control	-	1041	Western Street, Street	1041	1	524	541	643	431	-		291		1	191	***************************************	-	561		1	1475	1541	1955	2021	2525	2591	2356	2421	1101
From:	To: Halifax			Saint John		Quebec City		Montreal			Oshawa			Toronto			Hamilton			Windsor			Winnipeg		Regina		Edmonton		Calgary		Vancouver

Cast-Iron Soil Pipe and Fittings (cents per 100 lbs.)

United Kingdom	734		734	964	-	1		Barrente	210	1945	1	844
Vancouver	1	Water	!	1	1	Ī	-	1	1261	1101	İ	1
Edmonton Vancouver	ĺ	1	1	1	1	1	1	1	İ	541	1	1261
Winnipeg		1	1	[		1	751	1	1291	1	1	2151
3irn	2111		1601	1451	1891	1	2201	ļ	3041	2951	1	1931
Buffalo	1381									2951	-	2041
St. Catharines	over)1 104 (4" and over)1	128 (under 4")1	753	283	1475	1541		1	1	Manage		
Galt	104 (4" and over)1	122 (under 4")1		503		1	ſ	1	1	1	[	1
Oakville		1	1	363			1	-	-	1	Beend	I
Montreal	74(4" and over)1	92 (under 4")1	(	573	1475	1541	195	9091		2556	2621	2561
From:	To: Halifax.		Montreal	Toronto	Winnipeg		Regina	)	Edmonton	Calgary		Vancouver

Pipe Fittings (cents per 100 lbs.)

From:	Montreal	Hamilton	Ridgetown	Simcoe	Calgary	Chicago	Pittsburgh
To: Halifax	1232	1	1681	Ţ	1	1	2712
			2052		-	1	I
Ouebec City.	962	-	1541	· ·	İ	]	1902
	887		1767	and the same of th	1	Į	American
	1	]	1892	1	-	1	1
Montreal	l	883	1281	801	-	1723	1001
	1	1192	1572	1247	]	2217	$165^{2}$
Toronto	1077	323	671		1	1283	$122^{2}$
	1162	542	753	-	1	1647	[
	delicano	1	822	1		1	-
Winnipeg	1816	1956	2311	]	2202	2613	•
) .	2852	-	2852		1	1	1
Edmonton	2916	3056	3681	gazzana	812	3726	ĺ
	4532	1	4532	1	1	5037	Special Districts
Vancouver	275-286	275–286€	3616	2466	1842	4002	2041

## FREIGHT RATES TO CHIEF CANADIAN MARKETS

Oil-Country Goods

(cents per 100 lbs,—carload lots)

From:	:: Welland	Sault Ste. Marie	Port Moody, B.C.	Lorain, Ohio	Chicago
To: Regina. Edmonton. Calgary.	123 161 161	102 139 139	09 96	299 277	181 238 230

The following is the text of a letter received from The Petroleum and Natural Gas
Conservation Board, Province of Alberta:

December 21, 1956.

Re: Pipes & Tubes

Your Reference No. 119

Relative to your letter of November 12th regarding restrictions placed by this Board upon the use of electric welded casing in Alberta, the factors influencing the Board's policy have been reviewed in the light of experience in the Province during the last year or so and experience of the industry in the United States.

There is a decided preference in industry for seamless pipe for well casing and I think this stems from the poor quality of welded pipe supplied in the post-war years. Originally the Board only permitted its use in shallow wells but as the quality improved, has approved its use in deeper wells. The Board now feels that it is not justified in restricting the use of all makes of welded pipe.

The Board has received reliable evidence as to the satisfactory performance of electric welded casing produced by the A. O. Smith Corporation of Milwaukee and as a result will approve its use in casing strings in accordance with the recommended practices of the manufacturer. Although the A. O. Smith Corporation has not applied to the American Petroleum Institute for grading of its products, the Board has been informed that this company's casing has been extensively used under severe conditions of depth, pressure and corrosion in various United States oil and gas fields. I might say, however, that the A. O. Smith Corporation claims that its process and facilities for manufacturing electric welded casing are absolutely unique.

The Board has decided to adopt the standards and specifications of the American Petroleum Institute as set forth in its publications STD-5A and 5C2 which provide for the use of welded casing under moderate conditions. It will also approve the use of casing where there is good evidence that it is equivalent to A.P.I. grades but it reserves the right to refuse to approve any make whether welded or seamless where experience dictates that the product is unsatisfactory.

While the Board is prepared to accept the A.P.I. rating for all makes of welded casing including those manufactured in Canada, it also considers the experience and judgment of members of the oil and gas industry to be extremely important in the choice of casing to be used under the various conditions to be found in Alberta. For this reason the Board urges that no action should be taken which would induce operators to use welded casing in place of seamless due to economic considerations. The Board makes this request recognizing the danger to human life and property that may result from failures in casing used in the completion of oil or gas wells.

Yours very truly,

(Signed) I. N. McKINNON, Chairman





Covernment

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